THE TRANSITION CHECK-UP: FAMILY-CENTERED SCHOOL-BASED TRANSITION SERVICE DELIVERY MODEL FOR STUDENTS WITH INTELLECTUAL AND DEVELOPMENTAL DISABILITIES

by

SEUNGHEE LEE

A DISSERTATION

Presented to the Special Education and Clinical Sciences
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

September 2019

DISSERTATION APPROVAL PAGE

Student: Seunghee Lee

Title: The Transition Check-up: Family-centered School-based Transition Service Delivery Model for Students with Intellectual and Developmental Disabilities

This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Special Education and Clinical Sciences by:

Christopher Murray	Chairperson
John Seeley	Core Member
Hank Fien	Core Member
Ellen McWhirter	Institutional Representative

and

Janet Woodruff-Borden	Vice Provost and Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

Degree awarded September 2019

DISSERTATION ABSTRACT

Seunghee Lee

Doctor of Philosophy

Department of Special Education and Clinical Sciences

September 2019

Title: The Transition Check-up: Family-centered School-based Transition Service Delivery Model for Students with Intellectual and Developmental Disabilities

Many youths with intellectual and developmental disabilities (IDD) have poor postschool outcomes. Improving these outcomes has been a concern for over three decades. The purpose of the current study was to examine the feasibility and initial efficacy of the Transition Check-Up, a family-centered school-based transition service delivery model for improving the long-term employment rates of youths with IDD. For Study 1, five teachers administered the TCU online assessment system and participated in usability and acceptability testing, and a semi-structured interview. Data gathered during Study 1 were used to guide revision of the TCU process prior to full implementation of the TCU. For Study2, 11 teachers and 13 caregivers of youths with IDD participated in the entire TCU process. Study 2 examined usability, acceptability, and feasibility as well as initial effects of the TCU on self-efficacy of teachers and caregivers. Study 1 results indicate that there were slightly more teachers who perceived the TCU online assessment system as acceptable than teachers who did not. Study 2 indicated that teachers demonstrated changes in self-efficacy after the TCU intervention, but caregivers did not demonstrate meaningful change on self-efficacy after the TCU intervention. Limitations and implications for future research and practice are discussed.

CURRICULUM VITAE

NAME OF AUTHOR: Seunghee Lee

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene, OR
Saint Cloud State University, Saint Cloud, MN
Catholic University of Korea, Bucheon, Republic of Korea

DEGREES AWARDED:

Doctor of Philosophy, Special Education, 2019, University of Oregon
Master of Arts, Special Education, 2013, Saint Cloud State University
Bachelor of Arts, Special Education, 2008, Catholic University of Korea

AREAS OF SPECIAL INTEREST:

Transition Assessment
Self-determination
Professional Development
Family Involvement

PROFESSIONAL EXPERIENCE:

Research Fellow, Graduate Employee, University of Oregon, 2018-2019

Teaching Fellow, Graduate Employee, University of Oregon, 2017-2018

Practicum Supervisor, Graduate Employee, University of Oregon, 2013-2017

GRANTS, AWARDS, AND HONORS:

College of Education Doctoral Research Award, 2018

Florence Wolfard Scholarship & Alumni Scholarship, University of Oregon, 2016

ACKNOWLEDGMENTS

First and foremost, I am grateful to my God. Thank you God for walking beside me and guiding me all the way through. I could never have done this journey without the faith I have in you.

This dissertation would not have been possible without the support from many people. I would like to acknowledge my advisor and dissertation chair, Dr. Christopher Murray, for his support and mentorship during my dissertation phase. I would also like to thank my committee members, Dr. John Seeley, Dr. Hank Fien, and Dr. Ellen McWhirter, for their invaluable feedback and insight on my dissertation. It is also important for me to thank the teachers, caregivers, and students who participated in my dissertation study.

In addition, I would like to express my sincere gratitude to my wonderful friends that have always listened and been with me. In particular, my Friday ladies, Wendy and Moon, my Eugene family, Therese and Steve, and my roommate, Chelsey who shared our little home on Ferry St. Special thanks to my spiritual companion and best friend, Huda. A big thanks to Trish for her ongoing support and mentorship through entire my dissertation phase.

Finally, I am also grateful to my family and other Jeong family members. Thank you for your unconditional love, endless support, and consistent encouragement. Without all of you, I would not be where I am today. I love you all!

I dedicate this work to my beloved family, Dohwa, Hyuna, and Ahryun.

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CHAPTER I

INTRODUCTION

To assist students with disabilities during their transition from high school to adult life, appropriate services and planning are mandated for transition-aged students with disabilities under the Individuals with Disabilities Education Act (IDEA, 2004). Under this mandate, students with disabilities receive transition services, but they continue to struggle with poor post-high-school outcomes (Wagner, Newman, Cameto, Garza, & Levine, 2005). Students with disabilities have lower school completion rates (Stark & Noel, 2015), lower employment rates (U.S. Department of Labor Bureau of Labor Statistics, 2016), and higher incidences of poverty (DeVavas-Walt & Proctor, 2014) than do their peers without disabilities. Students with intellectual and developmental disabilities (IDD) struggle more than students with other types of disabilities (e.g., learning disabilities, emotional and behavioral disorders, sensory impairments). Newman et al. (2011) reported that young adults with IDD earned less per hour on average ($7.90) than their peers with other disabilities ($10.50 to $11.10), and 29% of young adults with ID were enrolled in postsecondary education in contrast to 61% to 75% of those with other disabilities.

In the last few decades, efforts to improve post-school outcomes among students with disabilities have resulted in slightly improved post-school outcomes (Wagner, Newman, Cameto, Garza, & Levine, 2005). However, there is still room to improve, specifically in employment outcomes for the students with IDD. Students with IDD experience unemployment, underemployment, and lower wage jobs at higher rates than do other youths (Luftig & Muthert, 2005; Newman et al., 2011). The American

Community Survey reported that about 20% of youths aged 16-21 with IDD were employed, compared to 39% of youths without disabilities in the same age group (Buttorworth & Migliore, 2015). According to the National Core Indicators (NCI) survey, only about 7% of youths aged 18-21 with IDD were working in integrated employment (Butterworth & Migliore, 2015). Moreover, most transition-age youths with IDD participate in sheltered workshops rather than integrated competitive employment, which can lead to greater social isolation and permanent status as a sub-minimum wage employee (Rusch & Braddock, 2004). Supported employment services can help youths with IDD participate in competitive jobs (Wehman, Chan, Ditchman, & Kang, 2014).

Outcomes for youths with IDD fall behind youths with other types of disabilities, and this gap increases with age (Sulewski, Zalewska, & Butterworth, 2012). To ensure successful transition from school to postschool life, the IDEA requires students with IDD to receive appropriate transition services through "a coordinated set of activities." (34 C.F.R.§ 300.43 (a) [1]) This leads to the need for a systematic planning process to facilitate the student's transition. The current study examines how exposure to a systematic school-based transition planning process model may positively affect self-efficacy and behaviors of key adult agents (i.e., teachers, parents) of students with IDD to support students' employment-related needs.

Practices and Predictors for Successful Transition Outcomes

Multiple researchers have made great efforts to study practices and factors associated with successful transition outcomes (Cobb et al., 2013; Haber et al., 2016; Mazzotti et al., 2016; Test, Fowler et al., 2009; Test, Mazzotti et al., 2009). The National Secondary Transition Technical Assistance Center (NSTTAC) identified evidence-based

practices (EBPs) and predictors for positive postschool outcomes of students with disabilities by conducting systematic literature reviews. Test, Fowler and their colleagues (2009) examined experimental studies shown to improve transition outcomes among students with disabilities by using quality indicators to establish levels of evidence. Using this process, they identified 32 EBPs that support students with disabilities in their secondary transition (e.g., teaching life skills, social skills training). Following this review, Test, Mazzotti, and their colleagues (2009) identified 16 evidence-based *predictors* of successful transition (e.g., community experiences, paid employment/work experience) in the areas of postschool employment, education, and independent living of secondary students with disabilities. Although valuable, this work has focused on all students with disabilities, making it difficult to discern the value of the practices for students with IDD.

In a second effort to summarize the literature on transition, Cobb et al. (2013) identified a range of evidence-based strategies, practices, and services that are likely to improve successful postschool transition among individuals with disabilities. These researchers focused on direct measures of students' postschool outcomes across three domains (i.e., employment, postsecondary education, independent living) as evidence of the program's effectiveness. Cobb and colleagues (2013) found that community-based work experience programs have potentially positive effects on employment outcomes with a medium-to-large extent of evidence as well as on postsecondary education outcomes with a small extent of evidence. In addition, programs for developing functional life skills were found to have positive effects on independent living outcomes although the extent of evidence was small (Cobb et al., 2013).

In addition to research summaries, several studies have shown that there are specific skills and predictors for promoting postschool employment outcomes. For example, Wehman, Sima, Ketchum, West, Chan, and Luecking (2015) identified factors for predicting successful employment outcomes based on the National Longitudinal Transition Study-2 data for 2,900 students with disabilities who exited high school in the 2002-2003 school year. Two predictors of successful employment were prior employment experiences during high school years and parental expectations of postsecondary employment. Similarly, the NSTTAC reported that students who participated in training and instruction focusing on the development of functional skills (e.g., social skills, domestic skills, accessing public transportation) were more likely to be competitively employed upon graduation from high school.

Through these efforts, several components of an effective transition system for students with disabilities were identified (Cobb et al., 2013; Haber et al., 2016; Mazzotti et al., 2016; Test, Fowler et al., 2009; Test, Mazzotti et al., 2009). However, it is important to continuously work toward developing, expanding, and evaluating secondary transition practices to support the needs of students with disabilities and to improve postschool outcomes (Kohler & Field, 2003). There is still a lack of research examining the effectiveness of service delivery models in transition planning and there are currently no validated practices that promote employment outcomes among students with IDD. Therefore, there is a great need for making constant efforts to identify cohesive transition planning and service delivery models incorporating the multiple factors associated with positive employment outcomes.

Current Models of Service Delivery in Transition Planning

Based on the need to improve postschool outcomes for students with disabilities, IDEA (2004) requires that an individualized transition plan (ITP) be included in the individualized education plan (IEP) of students with disabilities who are 16 years of age or older. The ITP meetings allow for the IEP team (e.g., teachers, parents, the student, and other relevant professionals) to outline the process for success following high school graduation. Schools are required to take a leadership role in preparing students and parents during the transition planning process (Kochhar-Bryant, Shaw, & Izzo, 2009). Traditionally, special education teachers facilitate this process by inviting all stakeholders, including different agency representatives (e.g. vocational rehabilitation counselor) to each IEP meeting via phone call or email and guiding the students and parents to transition through outside agencies within the community (Shogren & Plotner, 2012). However, it is difficult for agency representatives to attend all individual IEP meetings. Even if the agency representatives attend, their active and meaningful participation is limited because the IEP meetings often rarely have relevance to the services they are able to provide (Povenmire-Kirk et al., 2015). Furthermore, special education teachers tend to contact only familiar agencies for ease and accessibility (Povenmire-Kirk et al., 2015). Overall, this traditional service delivery model in transition planning is not efficient nor is it effective in terms of interagency collaboration.

To guide schools in implementing interagency collaboration, Provenmire-Kirk and colleagues (2015) developed a transition planning service delivery model called Communicating Interagency Relationships and Collaborative Linkages for Exceptional Students (CIRCLES). CIRCLES was designed to guide schools in implementing

interagency collaboration at three team levels, including a community team, a school team, and an IEP team by focusing on student involvement and leadership throughout the planning process. Flowers and her colleagues (2017) conducted a large-scale implementation of CIRCLES in 44 schools to examine the effects of CIRCLES on students' self-determination and IEP participation. They reported that students in the CIRCLES condition had higher levels of self-determination and greater IEP participation.

In order for an intervention to be implemented readily, widely, and with fidelity, the intervention should be supported by social validity (Snell, 2003). As a new delivery model in transition planning, each participant's evaluation of the implementation process of CIRCLES is critical. However, Povenmire-Kirk and colleagues (2015) did not include data input from key stakeholders, such as special education teachers, parents, and students. In addition, one of the limitations identified by the research team was a lack of follow-through after identifying actions items. To improve the level of follow-through, once the CIRCLES team members identify action items for the target student, it would be necessary to have a system to review the identified action items and identify what steps need to be taken and by whom. Lastly, this study only focused on proximal short-term student outcomes, such as level of self-determination and IEP participation, instead of focusing on measuring the effects of CIRCLES on postschool outcomes.

As another approach to transition planning, person-centered planning (PCP) is widely recommended to encourage active student participation in the individualized process (Claes, Van Hove, Vandevelde, Van Loon, & Schalock, 2010) because it allows for identification of the key elements of the transition services required by IDEA (e.g., student's strengths, interests, preferences). Multiple groups of researchers have studied

the effect of PCP. Hagner and his colleagues (2012) implemented a three-component intervention (i.e., group training sessions for families in the transition process, person-centered planning meetings facilitated by project staff, follow-up assistance with career exploration and plan implementation) with youths with autism spectrum disorder (ASD) to assess the effectiveness of a transition planning approach that empowers students and their families, educates them about the transition process, and helps them connect with community resources on the transition readiness of the youths. They measured student and family expectations, self-determination, and career decision-making ability of students with ASD. However, no specific instructions regarding development and use of PCP for transitioning youths exist, nor does consistency for development and use of PCP exist across states (Flannery at al., 2000). In addition, although PCP has been emphasized in the field, studies related to implementation of PCP are limited and there is scarce research evaluating the effectiveness of PCP on students' postschool outcomes. Moreover, existing studies focused on short-term outcomes, such as students' participation in the meeting, instead of focusing on long-term employment outcomes (Whitney-Thomas, Shaw, Honey, & Butterworth, 1998; Miner & Bates, 1997; Hagner et al., 2012).

Limitations of Current Research

To improve the traditional service delivery model in transition planning, different service delivery models have been introduced to the field (e.g., CIRCLES, PCP). Although both models made great efforts to promote identified evidence-based predictors of successful employment in the transition planning process (i.e., interagency collaboration & family involvement), neither are evidence-based due to limitations in prior research. Thus, there is limited research that directly evaluates the effectiveness of

the models on students' postschool outcomes, such as employment, independent living, and further education. Most studies focused on proximal short-term student outcomes, such as level of self-determination, IEP participation, and career-decision making ability. Therefore, it is difficult to determine whether or not the models have a direct impact on students' postschool employment outcomes.

Second, both service delivery models in the transition planning were facilitated by the study project staff, instead of special education teachers who are legally in charge of the IEP process. It is doubtful whether the service delivery models facilitated by research staff are efficient and sustainable. Because of the legal mandates, special education teachers naturally coordinate transition services based on the IEP. Therefore, it would be more efficient to provide support in order for special education teachers to become better facilitators of the transition planning process.

Lastly, neither service delivery model includes details on how the parents of students with disabilities were actively involved in the transition planning process and what roles they played during the transition planning. Although Hagner et al. (2012) reported that students and families were able to identify resources required to be successful and access those resources through assistance from the planning team, it was not clear what specific support besides identification of and access to resources was given to the families in order to guide their youths to attain the customized goals and plans set in the meeting.

Rationale for the Study

Students with disabilities can actively choose how to live their life consistently with their own personal choices and preferences. However, individuals with IDD may

have cognitive and functional limitations making some life decisions, including their postschool goals, more difficult. Under these circumstances, individuals with IDD may need to rely on support from their parents and/or teachers. Research continuously highlights the importance of parental involvement for in-school and postschool success among young people with disabilities (Newman et al., 2005; Test et al., 2009). Although the importance of the key adult agents (teachers and parents) has been emphasized, teachers have difficulties in how to effectively engage parents in their students' transition planning processes (Greenfield, Epstein, Hutchins, & Thomas, 2012). However, parents who perceive more outreach from their child's school report more involvement (Simon, 2004), which has the *potential* to increase parent engagement such as parent-child discussions about transition planning. A new service delivery model in transition planning is needed to initiate positive change processes including the support of teachers and parents for successfully planning transition experiences that improve employment outcomes among youth with IDD.

The Transition Check-Up (TCU) is a proposed teacher and family-centered school-based service delivery model designed to improve employment outcomes among students with IDD. The TCU uses three components identified in the literature as showing promise for students with disabilities aged 14 to 21. These include (a) assessment of key predictors for employment (i.e., functional skills, prior employment experience, parent expectations) (b) a feedback session based on the assessment results, and (c) a goal-setting session.

CHAPTER II

LITERATURE REVIEW

This chapter reviews the literature pertaining to the implementation and effects of school-based transition interventions for students with IDD. I first review definitions of key concepts. Second, I present the theoretical frameworks that guide this work. Third, I review research on predictors of postschool employment outcomes (i.e., functional skills, prior employment, and family expectation). Last, I provide a rationale for the TCU school-based transition intervention.

Definition of Key Concepts

Intellectual disability (ID). The Individuals with Disabilities Education Act (IDEA) defines ID as "significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance" [34 CFR §300.8(c)(6)]. The American Association on Intellectual and Developmental Disabilities (AAIDD, 2013) defines an intellectual disability as characterized by significant limitations in both intellectual functioning (e.g., learning, reasoning, problem solving) and adaptive behavior, which covers everyday conceptual skills (e.g., language and literacy, money and number concepts, self-direction), social skills (e.g., interpersonal skills, social problem solving), and practical skills (e.g., personal care, occupational skills, travel, safety, use of money). This disability originates before the age of 18. In the current study, I use the term intellectual and developmental disability (IDD) to refer to this condition.

Employment. Type of employment can be differentiated based on the degree of support the individual may need. The Workforce Innovation Opportunity Act (WIOA)

defines competitive integrated employment as full-time or part-time work at minimum wage or higher with wages and benefits similar to individuals without disabilities who are performing the same work and fully integrated with co-workers without disabilities. The older Workforce Investment Act (WIA; 1998) defines supported employment as competitive work in an integrated setting with ongoing support services for individuals with the most severe disabilities. It is intended for individuals for whom competitive employment has not traditionally occurred or for whom competitive employment has been interrupted or intermittent due to a significant disability and who are expected to require ongoing support in order to maintain employment because of the severity of disability. The WIOA then updated this definition of supported employment by including "customized employment." WIOA defines customized employment as competitive integrated employment for an individual with a significant disability, based on individualized determination of the strengths, needs, and interests of the individual with a significant disability. It is designed to meet the specific abilities of the individuals with significant disability and the business needs of the employer, and carried out through flexible strategies.

Motivational interviewing. Motivational interviewing (MI) is a directive client-centered counseling approach for initiating behavior change by helping clients to resolve ambivalence (Miller, 1996). MI was designed as an intervention technique to provoke the behavior change process by focusing on motivation to change (Miller & Rollnick, 1991). Miller and colleagues (Brown & Miller, 1993; Miller & Sovereign, 1989) designed a set of procedures providing clients with a basis for better decision making regarding the need for change. The most effective MI intervention (a) includes systematic assessment and

feedback of individual findings, (b) highlights the individual's personal *responsibility* for change, (c) includes an element of direct *advice* to make a change in target behavior (e.g., drinking), (d) offers a *menu* of different ways in which change could be accomplished, (e) emphasizes therapeutic *empathy*, and (f) strengthens an individual's *self-efficacy* for change.

Theoretical Framework for Intervention

Three theoretical frameworks are pivotal in understanding a school-based service delivery model in transition planning: (a) ecological theory (Bronfenbrenner, 1989), (b) stages of change theory (Prochaska & DiClemente, 1986), and (c) theory of planned behavior (Ajzen, 1991). This study utilizes ecological theory (Bronfenbrenner, 1989), stages of change theory (Prochaska & DiClemente, 1986), and theory of planned behavior (Ajzen, 1991) as theoretical frameworks for addressing the transition support needs of students with IDD. The TCU was modeled on the Family Check-Up (FCU; Dishion & Kavanagh, 2003) and was used as a school-based support in transition planning processes for students with IDD.

Ecological theory. Ecological theory (Bronfenbrenner, 1977, 1994) describes how relationships among social structures affect individuals. The ecological perspective posits that human development occurs within nested arrangements of systems, which form individuals' experiences, opportunities, and personal identity. It explains that individuals are interacting and developing in multiple settings and relationships. The ecological theory is beneficial for understanding the various layers of complexity involved in youth transition planning for employment. Therefore, it is critical to

understand the ecological systems influencing individuals who are in a transitioning period from school to employment.

The ecological systems include microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bronfenbrenner, 1994). First, microsystem refers to the environments within which an individual immediately interacts (e.g., home, school, workplace) and relationships with people within those environments. As critical microsystem factors, teachers and parents directly influence a student's transition planning to employment. Second, the mesosystem refers to the interrelations among microsystems. An individualized transition program is a manifestation of the mesosystem because it involves and connects several microsystems, such as school, work place, and home, interacting in the process of developing a plan that incorporates a student's transition to employment. Third, as an extension of the mesosystem, the exosystem consists of social structures and processes in settings that indirectly affect an individual although the individual is not embedded directly within them, such as workplace policies that influence the hiring or exclusion of youths with disabilities. Fourth, the macrosystem refers to overarching institutions of the culture or subculture (e.g., economic, social, or educational systems) and the effects this broader system has on development. Within the context of transition planning, the laws that govern this process, as well as broader policies such as those pertaining to employment, can affect students in the micro-, meso-, and exosystems (Bronfenbrenner, 1976). Fifth, the chronosystem includes change or consistency over time in characteristics of an individual or environment (e.g., changes over the life course in family structure or social economic status, or employment), which affect an individual.

As an ecological view considers the environment surrounding an individual as a system, interventions based on this perspective involve the coordination of multiple environmental systems (Dishion & Stormshak, 2007). Each level of influence is potentially powerful in shaping the development of an individual. An ecological framework also emphasizes the bidirectional, reciprocal influences between individuals' characteristics and the different environmental systems surrounding individuals. Therefore, an intervention such as the TCU should consider features of multiple environments as well as the individual level system. By considering an individual student, families, teachers, and multiple systems affecting the student, a service delivery model in transition planning process can be developed.

Stages of change theory. Motivation to change is widely recognized as a critical element in any prevention or intervention effort. The behavior change is considered as a process (Miller & Rollnick, 1991). Prochaska and DiClemente (1982) developed a model that demonstrates the cycle of behavior change. Their theory is based on motivational considerations known as the Transtheoretical Stages of Change Model. According to this model, individuals go through a series of stages as they struggle to change problematic behaviors (Prochaska & DiClemente, 1982). Their cycle of behavior change, derived from the transtheoretical model, consists of the following six stages: (a) Precontemplation, (b) Contemplation, (c) Determination, (d) Action, (e) Maintenance, and (f) Relapse. These are summarized below based on Miller and Rollnick (1991, pp. 16-18).

First, the *precontemplation* stage is characterized as a lack of cognizance that the behavior needs to be changed. Acceptance of the difficulty leads to the individual's entry to the second stage, which is the *contemplation* stage. This stage is often characterized by

great ambivalence. Next, in the *determination* stage, the individual decides to act. The *action* stage is when the individual engages in specific actions intended to bring behavior change. One of the challenges is to move to the *maintenance* stage in which change is sustained by the individual to prevent relapse and finally exit from relapse (Milller & Rollnick, 1991). Therefore, the individual could go to the *relapse* stage, where the process of change starts over again. While in this process, the major difficulties facing individuals lie in their ability to appraise their problem, weigh the risks and benefits of change, and ultimately to commit to change (Prochaska & DiClemente, 1984)

Based on these six stages, it is expected for individuals experiencing each of the cycle stages to repeatedly change the behaviors until long-term maintenance is achieved. The stages of change perspective is used to conceptualize the behavior of key adult agents to change their behaviors during the transition planning process, specifically, to increase specific support for their youths with disabilities. By recognizing where an individual is in the change process, the transition service delivery model could provide better support for the key adult agents to engage in changing their behaviors related to assisting transition-aged youths in developing the necessary skills to attain post-high-school employment.

Review of Research on Functional Skills, Prior Employment, Family Expectation and Involvement

To develop further understanding about the skills and predictors of postschool employment among youth with IDD, an electronic search was conducted using Academic Search Premier, Educational Resources Information Center (ERIC), MasterFILE Premier, and PsycINFO. This search focused on published peer-reviewed articles from January

1998 through December 2017. Full and truncated versions of the following search terms were used: predictor, adolescents with disabilities, students with disabilities, youth with disabilities, young adults with disabilities, employment, paid employment, work experience, postschool outcomes, functional skills, self-care, communication, mobility skills, prior employment, early employment, family expectation, parent expectation, family involvement, and parent involvement. Also reviewed were reference lists of articles meeting inclusion criteria from electronic searches to identify relevant articles.

This review included students aged 14 to 21 with disabilities, who were in high school and community transition program settings, and who were eligible for special education services under the IDEA. The review included an employment outcome domain. This outcome domain focused on students' post-high school employment (e.g., involvement in competitive employment, support employment, community-based career training, sheltered employment, independent or self-employment). For an outcome to be eligible for the review, these employment outcome placements must have resulted in pay (e.g., earnings, hourly wages).

This search led to the identification of several recent studies focused specifically on predictors of employment outcomes among youth with IDD (Baer, Daviso, Flexer, Queen, & Meindl, 2011; Carter, Austin, and Trainor, 2011; Carter et al.., 2012; Simonsen & Neubert, 2013). The associations between students' employment experiences and key factors indicated that students' functional skills (e.g., communication, self-care skills), parental expectations pertaining to students' future self-sufficiency, and prior work experiences were predictors of positive employment. Each predictor includes sample

studies supporting associations with positive employment outcomes of students with disabilities.

Functional skills. Functional skills, such as communication skills, functional academic skills, and self-care skills, were identified as an evidence-based predictor of improved employment outcomes for students with disabilities (Test et al., 2009). Social and communication skills represent critical student development skills in a transition-focused education (Kohler & Field, 2003). Students who lack social skills are at risk for various difficulties, including social isolation, dissatisfaction, dropping out of school, difficulty maintaining employment and developing relationships with others, mental health issues, and contact with the legal system (Maag, 2005).

Cater et al. (2011) examined the early work experiences of youths with severe disabilities, including IDD, by analyzing data from the National Longitudinal Transition Study-2 (NLTS-2) gathered over a 10-year period (2000-2010). The NLTS-2 provides nationally representative information about students receiving special education services as they were transitioning from high school to adult life. The researchers considered current employment status, paid community job in the previous 12 months, and paid work study as employment outcomes. Carter et al. (2011) reported that youths who were perceived to have less difficulty related to communication and self-care skills were significantly more likely to report having paid employment. Mobility skills were also strongly associated with employment outcomes.

In the following year, Carter, Austin, and Trainor (2012) examined the extent to which an array of student, family, and school factors were associated with employment among students with severe disabilities, including IDD, during the two years following

high school. This study focused on the association between factors and employment outcomes after a longer time-period (i.e., for two years after high school). This study included current employment, any employment in the previous two years, and competitive employment as employment outcomes. Moreover, the researchers expanded the employment outcomes by differentiating the types of employment (i.e., competitive employment) and adding work related information (i.e., hours worked, hourly pay). The findings from the study were aligned with the previous investigation (Carter et al., 2011) because youths who had more independence in functional skills (e.g., self-care, social skills) had increased odds of employment after school.

Murray and Doren (2013) conducted a study to examine the effects of the Working at Gaining Employment Skills (WAGES; Johnson, Bullis, Benz, & Hollenbeck, 2004) curriculum, a school-based job-related social skill curriculum, on the prevocational and social skills of students with disabilities in high schools. WAGES consists of 33 lesson plans in four areas to improve students' job-related social skills: (a) self-regulation, (b) teamwork, (c) communication, and (d) problem-solving. These skill domains were taught with activities focusing on social interactions in competitive work settings. Although not focused specifically on students with IDD, a total of 222 students with disabilities participated in the study and were randomly assigned in either a treatment group or control group at the classroom level. Students with disabilities in the treatment group received the WAGES curriculum instruction for approximately 4.5 months, and those in the control group received instruction as usual. These researchers measured student participants' prevocational skills and social skills prior to and following the intervention. Results demonstrated that students in the treatment group had greater

vocational outcome expectations, greater prevocational skills, and greater social skills than students in the control group following the intervention. This suggests that an intervention focused on improving functional skills could positively affect pre-employment skills although this effect was not demonstrated on the target study population here (i.e., students with IDD).

Prior employment. Early employment experiences are critical for helping youths with disabilities become economically and socially self-sufficient, productive adults (Wagner, Newman, & Javitz, 2017). In addition, employment can offer people a sense of purpose and personal meaning (e.g., fostering pride and self-esteem) and help define who they are and how they fit into the community, important intangible benefits that do not accrue to those who cannot find or keep quality jobs (Wagner et al., 2017). The failure of successful transition from school to work can cause dependence, underemployment, and lack of meaningful contribution to the economic well-being of their families (Wagner et al., 2017). Multiple studies have indicated that paid employment experiences during high school are highly and positively related to post-secondary competitive employment of youths with IDD (Carter et al., 2012; Gold et al., 2013; Joshi et al., 2012; Papay & Bambara, 2011; Simonsen & Neubert, 2013; Siperstein at al., 2014).

Wehman et al. (2012) conducted two case studies by implementing Project SEARCH High School Transition Program (PS-HST; Rutkowski, Daston, VanKuiken, & Reihle, 2006), a school-to-work transition model, for two students with ASD. As a unique school-to-work transition model, Project SEARCH provides an intensive nine-month internship embedded in a large community business (e.g., hospital, government complex, banking center) for students with disabilities. The critical components of

Project SEARCH include complete immersion in the workplace during the final year of high school, classroom instruction related to communication and social skills for successful employment (e.g., lecture, guided practice, role-play, discussion), and on-the-job training and support through an active collaboration of the school system, employers, and the vocational rehabilitation (VR) system. With these critical components of the PS-HST, Wehman et al. (2012) offered the following additional support for students with ASD: (a) behavioral consultation provided by behavior analysist; (b) structures and schedules designed to meet the students' needs with ASD in internship sites; (c) definition of workplace social communication, idioms, and behavioral expectations; (d) visual support; (e) self-monitoring systems and reinforcement programs; (f) social skill instruction through role play and behavioral practice; and (g) intensive instruction and monitoring of student success at social skills across internship sites. Through the two case studies, Wehman et al. (2012) provide potential evidence that access to intensive training in community environments through the PS-HST may improve the employment outcomes for students with ASD.

Following the previous study (Wehman et al., 2012), Wehman et al. (2014) conducted a study to examine the effectiveness of obtaining employment for students with ASD in a randomized clinical trial of PS-HST plus the additional support for students with ASD. They provided 24 students with ASD an intensive nine-month intervention based on the PS-HST model with the additional ASD support of a hospital internship. The student participants in the control group received educational support and services as planned in their individualized education program (IEP). Wehman et al. (2014) collected outcomes at three different points during the three-year time period: (a)

baseline (Time 1), (b) completion of nine months intervention (Time 2), and (c) three months post completion of school year (Time 3). The study reported that 21 students with ASD in the treatment group were hired in competitive employment (i.e., pharmacy technician, intensive care unit assistant, teacher's aid, surgical care technician, clerical assistant). This result is considerable considering that only one student was competitively employed among the students in the control group during the three-year study. Furthermore, the wages that the students in the treatment group earned were up to 24% above the minimum wage of $7.25 at the time of the study. In addition to the job attainment, the study indicated that the students in the treatment group became more independent at work than students in the control group.

Family expectation and involvement. Caregivers can play a critical role in shaping employment-related experiences and outcomes of their children with IDD (Blustein, Carter, & McMillan, 2016). As a basic principle of IDEA, caregiver involvement has been emphasized in transition planning (Turnbull & Turnbull, 2015). Studies show that parental expectations and involvement are associated with employment outcomes (Carter, Austin, & Trainor, 2011; Carter et al., 2012; Wehman, Sima, Ketchum, Wed, Chan, & Luecking, 2015).

Lindstrom, Doren, Metheny, Johnson, and Zane (2007) examined the role of the family in career development and postschool employment outcomes for youth with learning disabilities by using a multiple-case study design. They conducted 59 in-depth interviews with youths, caregivers, and school staff. Findings indicated that the fundamental difference in outcomes for different youth was related to patterns of family interaction. For example, youth participants from advocate groups were employed in

higher wage occupations in contrast to the protector group, who entered lower wage and lower skill occupations or were unemployed. Youth participants from removed families fared well despite the lack of family involvement or support. With the patterns of family interaction, they found five components of family process variables: (a) early and ongoing relationships with caregivers, (b) level of family involvement in school and other activities, (c) family support and advocacy, (d) presence of intentional career related activities, and (e) presence of intentional career related activities. The study indicated the importance of (a) caregiver education by offering access to information about postschool employment and education options and (b) partnership between caregiver and school professionals by engaging parents in career exploration, job search, and postschool planning activities.

Doren, Gau, and Lindstrom (2012) analyzed data from the NLTS-2 to examine three key areas. First, the researchers examined the main effects of caregiver expectations of the high school graduation and positive postschool outcomes (e.g., high school graduation) of youths with disabilities who had been out of school for up to four years. Second, they found family and youth individual factors which may moderate the relationship between caregiver expectations and high school leaving status and postschool outcomes. Lastly, they investigated autonomy as a potential mediator between caregiver expectations and high school leaving status and postschool outcomes. The results indicated that (a) caregiver expectations were highly and positively associated with the likelihood that youths with disabilities would achieve positive postschool outcomes; (b) youths' disability type moderated the relationship between caregiver expectations and study outcomes (i.e., graduation from high school, currently working,

currently attending or graduated from a postsecondary institution); and (c) although autonomy did not mediate the relationships between caregiver expectations and study outcomes, caregiver expectations significantly predicted levels of autonomy which predicted a number of postschool outcomes.

Based on these findings, interventions supporting and fostering positive caregiver expectations are needed. Francis, Gross, Turnbull, and Parent-Johnson (2013) developed an adult training program, the Family Employment Awareness Training (FEAT), to improve employment expectations and knowledge among individuals with disabilities, their families, and professionals (e.g., educators, vocational rehabilitation counselors). They conducted a pilot study to examine the immediate impact of FEAT on expectations and knowledge of the caregiver participants by using pre- and posttraining questionnaire data. The FEAT training combined multiple instructional strategies and activities (i.e., lecture, positive examples, break-out sessions, networking opportunities, individual/group activities, follow-up technical assistance) to improve employment expectations and knowledge of the participants. This pilot study demonstrated the immediate impact of the FEAT training on participants' increased expectations for competitive employment and knowledge of employment-related services and support after the training.

Following the pilot study, Francis, Gross, Turnbull, and Turnbull (2013) conducted a FEAT follow-up survey study to evaluate the long-term effectiveness of the FEAT training on participants' expectations and knowledge. They distributed the survey to 220 families of youth with individualized support needs one to two years after attendance and conducted semi-structured interviews using an interview protocol to

explore families' perceptions. The results indicated that after participation, those who attended the FEAT training rated their competitive employment expectations at average and their knowledge of employment services and support above average on the survey instrument comparing results, indicating that participants generally reported poor expectations and knowledge before the intervention. Moreover, the study indicated that families perceived that the FEAT training was beneficial and suggested it be expanded into schools. However, the study did not demonstrate direct employment outcomes.

Francis, Gross, Turnbull, and Turnbull (2015) employed a mixed-method design to evaluate the perspectives of 68 families after the FEAT training participation on accessing employment resources and competitive employment outcomes by distributing a FEAT follow-up survey and using an interview protocol. They found that families accessed competitive employment resources following the FEAT training and reported competitive employment outcomes for their family members with disabilities. In addition, the researchers reported that the FEAT training had a positive impact on how the families helped their family members with disabilities gain or maintain competitive employment.

Proposed Model

Multiple studies have identified evidence-based practices and predictors associated with successful transition outcomes among students with disabilities. This research recommends supporting students' functional life skills, prior work experience during high school years, and caregiver expectations in the transition planning process as strategies for improving employment outcomes among students with disabilities. Despite these suggestions, there are no known interventions that attempt to address all three of these areas in one intervention. The Transition Check-Up (TCU) is an attempt to develop

an intervention that improves functional skills, prior employment, and caregiver expectations and involvement by targeting teachers and caregivers through an assessment-feedback-goal setting process.

The TCU model is based on the Family Check-Up. The Family Check-Up (FCU) is a brief three-session intervention using motivational interviewing and modeled after the Drinker's Check-Up (Miller & Rollnick, 2002). The FCU was designed to (a) target caregiver' motivation to maintain current parenting practices that are important for young adolescent adjustment, (b) reduce interactions that are likely to undermine the caregiver-child relationship or exacerbate behavior problems, and (c) increase parenting behaviors promoting adjustment and competence (Dishion & Kavanagh, 2007). The FCU has been used for multiple different populations (Dishion, Nelson, & Kavanagh, 2003; Shaw, Dishion, Supplee, Gardner & Arnds, 2006; Van Ryzin, Stormshak, & Dishion, 2012).

The three sessions include an intake interview, a thorough assessment, and a feedback session with parents and children. The TCU is based on the structural features of FCU but targets both teachers and caregivers. Furthermore, the assessment, feedback, and goal setting sessions focus specifically on employment and employment-related outcomes for students with disabilities. In addition, the proposed TCU model is facilitated by teachers in schools although teachers are also targeted intervention recipients as caregivers. By considering the unique needs of transition-aged students with disabilities, the TCU consists of assessment of key predictors for employment (i.e., functional skills, prior employment experience, caregiver expectations/involvement) evaluated by teachers and caregivers, a feedback session based on the assessment results, and a goal-setting session. The TCU is a family-centered, school-based service delivery

model in transition planning designed to improve employment outcomes of students with IDD by targeting change in caregiver supporting behavior for their child. An overview of the proposed model is provided in Figure 1.

Assessment session of key predictors for employment. As the IDEA (2004) highlighted assessment within transition planning, transition assessment is a mandated tool to identify essential educational practices and services for a student with disabilities (Carter, Brock, & Trainor, 2014). Transition planning for a student with disabilities requires the IEP team members to make a complex judgment and decision. For example, the IEP team decides what skills need to be prioritized, which services and interventions need to be selected, and how intensively services need to be offered. Assessment can guide these complex decisions in designing and delivering the transition services (Neubert & Leconte, 2013).

Recent studies show that an array of predictors have positive indication of employment after high school graduation. During the assessment session, predictors of employment outcomes are assessed by both teacher and caregivers using multiple assessment tools: (a) a multi-informant norm-referenced measure of functional skills, (b) assessment of caregiver expectations and involvement in postschool employment outcomes (*caregivers only*), and (c) a brief survey questionnaire about student prior employment experiences. Based on the ecological framework, the goal of the assessment session is to provide an overview of strengths and needs across multiple individuals and ecological domains, including functional skills, family expectation/involvement, and prior employment experiences. These assessment results are used by teachers and caregivers to identify student strengths and risk factors related to long-term employment.

Feedback meeting session. Assessment can be used as a strategy for improving collaborative decision making among teachers and family as well as building motivation to change behaviors (Dishion & Stormshak, 2007). In addition, sharing assessment results with the family can enhance their engagement and their own capacity for making meaningful decisions about their family (Sanders & Lawton, 1993). Research indicates that motivation to change is a key ingredient of change behaviors (Prochaska & Norcross, 1999). Motivational interviewing (MI) is designed as a guiding style to prompt the behavior-change process by focusing on motivation to change (Miller & Rollnick, 2002).

Once assessment data is gathered from family, the teacher receives self-paced online training offering an overview of the feedback and goal-setting process. The teacher then meets with the caregiver to present the results of the assessments and to initiate the feedback protocol. A menu of service delivery is developed collaboratively with the caregiver, and specific goals are targeted to improve employment outcomes of youth with IDD.

Goal setting session. One way to promote self-efficacy is to collaborate with caregivers in selecting behavior-change goals that are realistic, measurable, and under their control (Stormshak et al., 2011). According to goal-setting theory, when individuals set specific goals, they are more likely to work towards the goals they set and their performance improves (Schunk, 2003). Goals should be narrow and specified in action-oriented terms. As a part of the collaboration with caregivers in the feedback session, this session aims to narrow the goals and specify intended outcomes.

Based on the result of the assessments, teacher and caregivers collaborate to set specific, measurable, action-oriented, realistic, and timebound (SMART) goals in order to

improve critical main areas for supporting positive employment outcomes of students with IDD. In addition, both key adult agents (i.e., teacher, caregiver) identify action-oriented plans to obtain the goals. Setting goals and plans to attain the goals allows individuals to monitor their progress toward the goals and evaluate their progress objectively. Following the feedback session, the teacher contacts caregivers to check-in at least one time to see if caregivers make any progress toward the goals after the specific timeframe they set together.

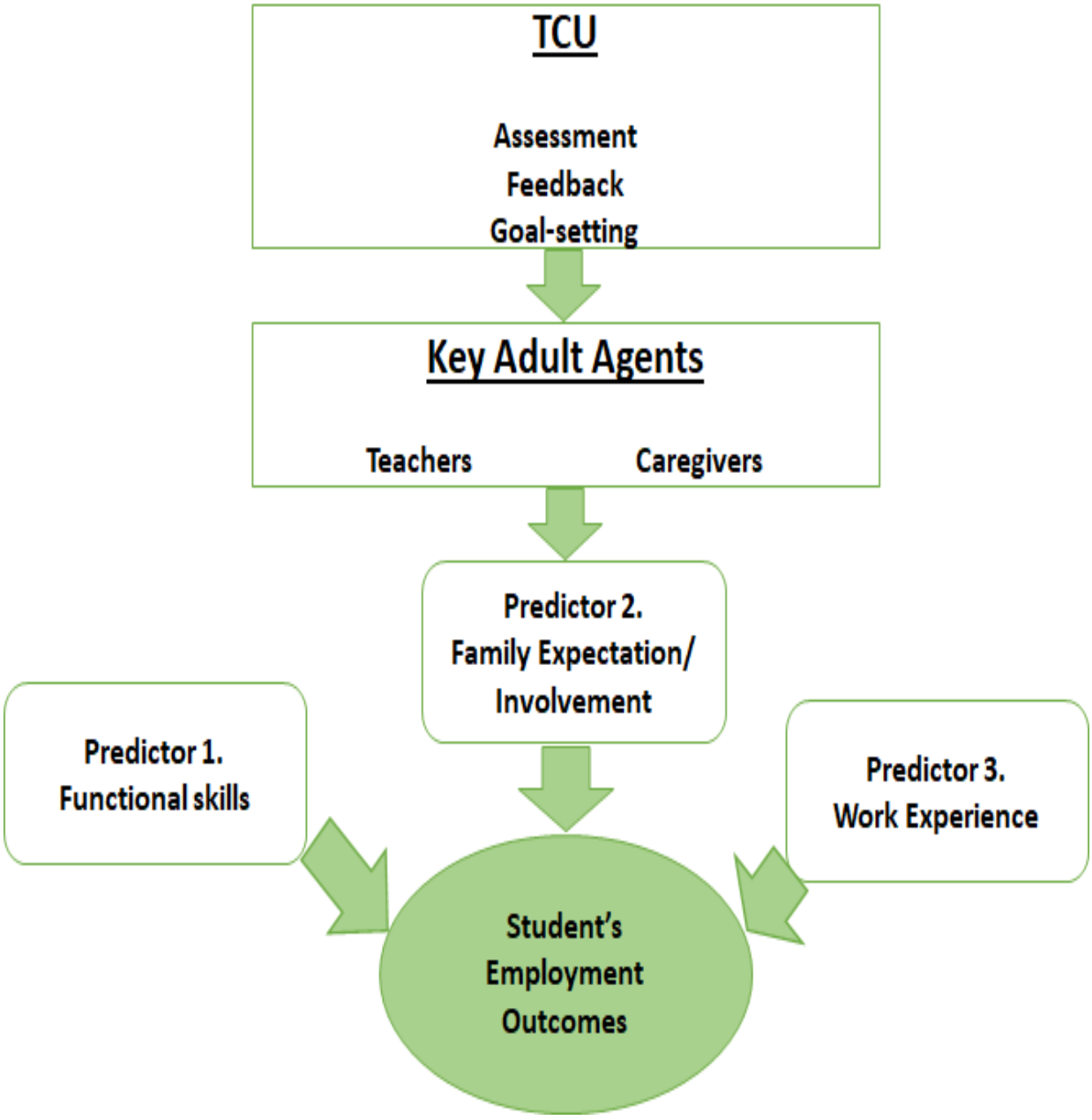


Figure 1. Transition Check-Up Model

Summary

Prior research suggests that functional skills, prior employment, and family expectations and involvement are important predictors of long-term employment among students with disabilities. Finding ways to assess and plan for focusing on these skills is important to design transition planning as well as collaborate with caregivers. One goal of this brief intervention is to identify strengths and needs for students with disabilities and to motivate caregivers to seek further services. Many caregivers are seeking services but have limited access to resources and support. The TCU, a brief, strength-based approach, can enhance motivation for caregivers by informing them of the positive aspects as well as the risks associated with postschool employment. Caregivers can leave the intervention with a sense of accomplishment and a clear picture of where they can make changes for the future of their child.

Purpose of the Study

The purpose of this study is to examine the feasibility, acceptability, and usability of the TCU and to determine the TCU impact on the key adult agents' self-efficacy and their actions (i.e., goal-attainment) to respond to the specific employment-related needs of youths. Specifically, the following questions are addressed:

1. Is the TCU perceived as feasible by teachers and caregivers?

    Hypothesis 1: Teachers will implement the TCU with high fidelity as measured by greater than 2 (i.e., present).

2. Is the TCU acceptable to teachers and caregivers?

Hypothesis 2: Teachers will rate the TCU as an acceptable intervention as measured by an overall mean item score greater than or equal to 4 on the modified TARF-R.

Hypothesis 3: Caregivers will rate the TCU as an acceptable intervention as measured by an overall mean item score greater than or equal to 4 on the modified TARF-R.

3. Is the TCU usable to teachers and caregivers?

   Hypothesis 4: Teachers and caregivers will rate the TCU as a usable intervention as measured by an overall mean item score greater than or equal to 4 on the modified SUS.

4. Does the TCU impact key adults' (i.e., teachers, parents) self-efficacy for facilitating post high school transitions to employment for students with IDD?

   Hypothesis 5: Teachers will demonstrate greater change on self-efficacy after the TCU intervention ($d \geq .30$).

   Hypothesis 6: Caregivers will demonstrate greater change on self-efficacy after the TCU intervention ($d \geq .30$).

CHAPTER III

METHODOLOGY

The current study utilized mixed methods to examine (a) feasibility, usability, and acceptability of the TCU and (b) the initial effects of TCU on self-efficacy of key adult agents (i.e., teachers, caregivers). For Study 1, teachers administered the TCU online assessment process and then participated in usability testing, acceptability testing, and a semi-structured interview. Study 1 used a mixed method approach to understand the feasibility of the TCU online assessment system and guide revisions to the online assessment process prior to administering the entire TCU. Study 2 utilized a pre-experimental one-group pretest-posttest design to examine the initial effects of the TCU on self-efficacy of key adult agents (i.e., teachers, caregivers). During Study 2, additional usability and social validity data were gathered to inform further revisions to the measure and process based on implementation of all procedures.

Study 1: Feasibility Tests of the TCU Online Assessment System

Participants

After receiving the Institutional Review Board (IRB) approval, seven high school special education teachers and transition specialists were contacted within Bethel and Springfield school districts in Oregon and informed of the TCU with an introduction letter via email. The primary researcher contacted the teachers because they were known by the primary researcher and met inclusion criteria. Inclusion criteria for teacher participation in this study were as follows: (a) managed at least one case of students who have a diagnosis of an intellectual disability and/or autism spectrum disorder (ASD) as determined by the special education classification and services they receive in high

school (IDEA, 2004) and (b) provided consent to participate in all required activities for study participation (i.e., completing two sets of assessment packages, interview). At the end of the study, teachers received a $30 electronic gift certificate.

Initially, all seven teachers agreed to participate in Study 1 and signed the consent form. However, one teacher dropped out before the Transition Check-Up online assessment trial began and another participant did not complete the online TCU assessment, and thus was excluded from data analysis. Therefore, during Study 1, a total of five teachers completed the TCU online assessment session, process session, and semi-structured interview session. The five teachers were female and Caucasian. Among them, three teachers were transition specialists in their school districts, and one teacher taught employment skills. The other teacher taught English and social skills. All five teachers had at least 10 years of teaching experiences (M = 16, SD = 6.22) in special education.

Setting

Study 1 included (a) a TCU online assessment process; (b) a feasibility survey, including usability and acceptability testing; and (c) a semi-structured interview. The TCU online assessment process and feasibility survey were administered at teachers' convenience, and a semi-structured interview occurred in a participating teacher's classroom.

Measures

The primary purpose for Study 1 was to determine the feasibility of implementing the Transition Check-Up (TCU) online assessment system in high schools and to make revisions to the process prior to further implementation of the entire TCU procedures for Study 2. To further corroborate, elaborate, and verify information gathered, Study 1 used

multiple methods and multiple sources of data (Patton, 2002; Yin, 2003). Teachers completed two primary sets of assessments. First, through the TCU online system, teachers individually completed the TCU online assessment that would then be used to assess youths' functional skills, prior employment experiences, and key adult agent's expectation/involvement regarding support for student's employment outcomes. In addition to the TCU online assessment, teachers completed measures that would then be used to make revisions to the materials and procedures of the TCU online assessment session for Study 2.

TCU online assessment. The TCU online assessment included three instruments to evaluate youths' functional skills, expectation/involvement of key adult agent (i.e., teacher, caregiver), and prior work experience (*caregiver only*).

Functional skills (teacher and caregiver). Functional skills were assessed with the Adaptive Behavior Assessment-III (ABAS-III, Harrison & Oakland, 2015). This standardized norm-referenced measure assesses functional skills among children and youths ages 4-21. The ABAS-III evaluates the skills that are used in conceptual, social, and practical areas of adaptive behavior. The ABAS-III includes teacher and parent rating forms, both of which assess 10 areas (i.e., communication, community use, functional academics, school/home living, health and safety, leisure, self-care, self-direction. social, and work). Respondents rate each item on a 4-point scale ranging from 0 (i.e., "Is not able to perform") to 3 (i.e., "Always or almost always when needed"). The test-retest reliability is .88 (Harrison & Oakland, 2015). Harrison and Oakland (2015) examined the relationships between the ABAS-III with the ABAS-II and corrected correlations across all scores are the following: .72 for Parent Form, .81 for Teacher Form.

Expectation/involvement (teacher and caregiver). Key adult's expectation and involvement were assessed with parent interview items from the National Longitudinal Transition Study-2 (NLTS-2, SRI International, 2000). The parent interview included 20 items. A total of 11 items were used to assess expectations for youth's postschool employment outcomes (e.g., "How likely do you think it is that youth eventually will get a paid job in an integrated employment setting?"). Key adult agents rated on a four-point scale ranging from 1 (i.e., "Definitely won't") to 4 (i.e., "Definitely will"). A total of nine items were used to assess involvement in youths' employment planning (e.g., "During this school year, how often did you or another adult in the household talk to youth about finding a job?"). Key adult agents rated on a four-point scale ranging from 1 ("Never") to 4 ("Often").

Prior employment of student (caregiver only). Student's prior employment experience was assessed by a caregiver by completing the Prior Employment Questionnaire (PEQ), which included open- and closed-ended question formats. The PEQ was developed based on parent and student interview items from the NLTS-2 and included four items about employment status and past employment history. Three items asked about youths' employment status (e.g., "Has your child ever had a job?") and one item asked about reasons why the youth does not have a job if he or she never had a job.

Feasibility survey measures. Three instruments were used to evaluate feasibility.

Feasibility. The Feasibility Questionnaire focuses on eliciting readily accessible behavioral outcomes, normative referents, and control factors. This questionnaire was developed by the primary researcher for the purpose of this study from sample questions from Ajzen (2013). Each individual teacher participant responded to nine questions in a

free response format. Three of the items addressed behavioral outcomes (e.g., “What do you see as the advantages of using the Transition Check-Up online assessment system as a part of your following IEP meetings?”). Four items addressed normative referents (e.g., “Please list individuals or groups who would approve or think you should use the Transition Check-Up online assessment system as a part of your following IEP meetings”). Two items addressed control factors (e.g., “Please list any factors or circumstances that would make it easy or enable you to use the Transition Check-Up online assessment system as a part of your following IEP meetings”). A content analysis of the responses to these questions resulted in lists of modal salient outcomes, referents, and control factors. See Appendix A.

Usability. Usability of the TCU was measured using a modified System Usability Scale (SUS; Brook, 1996) with a 5-point Likert-type rating scale (i.e., 1=Strongly Disagree to 5=Strongly Agree). The SUS consists of 10 items evaluating perceptions of the effectiveness, efficiency, and satisfaction of a particular system (e.g., “I thought this system was easy to use,” “I would imagine that most people would learn to use this system very quickly.”). Internal consistency reliabilities range between .89 and .96 (Bangor, Kortum, & Miller, 2008; Sauro, 2011). See Appendix B.

Social validity. Teacher and caregiver perceptions of social validity were measured using a modified Treatment Acceptability Rating Form-Revised (TARF-R; Reimers, Wacker, & Cooper, 1991). The modified TARF-R includes 20 items rated on a 5-point Likert-type rating scale (i.e., 1=Not at all acceptable to 5=Very acceptable) to measure teacher and caregiver perceptions of the acceptability of the TCU (e.g., “How acceptable do you find the Transition Check-Up to be regarding concerns about your

child/student?"). The 20 items consist of eight subscales, including reasonableness, willingness, side-effects, effectiveness, disruption/time, affordability, severity, and understanding. The items in the side-effects, disruption/time, severity, and understanding subscales were reverse coded, so that a higher score is indicative of a more favorable rating. Brief descriptions of each subscale follow. Internal consistency reliability was reported as .92 (Reimers et al., 1991). See Appendix C.

Reasonableness. The Reasonableness subscale consists of three items that measure how much participants like the procedure and whether they found the procedures to be reasonable and acceptable for their school/family.

Effectiveness. The Effectiveness subscale consists of three items that measure the degree to which participants believed the procedures would make improvement in the child's outcome, would be effective for that child, and how confident participants were that the treatment was effective.

Side effects. The Side effect subscale consists of three items that measure the extent to which there were disadvantages in following a treatment, undesirable side-effects resulted, and how much discomfort the child experienced from the treatment.

Disruptive/time. The Disruptive/time subscale consists of three items that measure the degree to which implementation of the treat is disruptive to the school/family, is time consuming, and fit into the school/family routine.

Affordability. The Affordability subscale consists of two items that measure how costly and how affordable the treatment was for the school/family.

Severity. The Severity subscale consists of two items that measure participant perception of the severity of their child's difficulties in postschool employment outcomes.

Understanding. The Understanding subscale consists of one item that measures how well participants understand the treatment.

Procedures

The TCU online assessment occurred individually through the TCU online system, and after the TCU online system trials, a feasibility survey was administered at a place convenient to the teachers (e.g., teacher's classroom, conference room) respectively. Once teachers completed the TCU online assessment and feasibility survey, a semi-structured interview was conducted individually in a participating teacher's classroom.

TCU assessment session. The primary researcher sent teachers an invitation email with a link to access the online TCU assessment system. Through the online assessment system, teachers individually completed the TCU online assessment, including the ABAS-III, the PEQ (*caregiver only*), and key adult agent's expectation and involvement at their convenience. The TCU online assessment session took approximately 30 to 45 minutes. Table 1 lists measures included in the TCU online assessment and process sessions. A reminder was sent to all participants within two days from the date when the invitation email was sent. After a week, another reminder was sent to prompt any participants who had not attempted yet.

Once each participant completed the TCU online assessment, the assessment result was immediately generated as a report, including visual graphs (See Appendix D) and brief description of strengths and needs across the three targeted skills (i.e., functional skills, prior employment experience, and key adult's expectation/involvement).

Feasibility survey session. Following the TCU online assessment sessions, teachers completed a set of measures, including the Feasibility Questionnaire, the

modified SUS, and the modified TARF-R. This feasibility survey session took approximately 30 minutes for a paper and pencil survey taken at the teacher's convenience.

Semi-structured interview session. The primary researcher conducted a semi-structured interview with each participant by using semi-structured interview questions about feasibility, usability, and social validity. The interview questions were asked to the teachers by following an interview protocol (See Appendix E). Before conducting an interview, the primary researcher reviewed the results of the process data gathered through the Feasibility Questionnaire, modified SUS, and modified TARF-R. After the review of the data, the primary researcher briefly introduced the purpose of the interview session and confirmed that the interview session would be voice recorded based on the participants' consent prior to the study participation. By following the interview protocol, the primary researcher asked open-ended questions to identify issues related to the TCU online assessment process, clarify participants' responses, and receive additional feedback or questions about their overall participation in the TCU online assessment process. For example, if certain items were rated as lower than neutral (e.g., disagree, strongly disagree) on Likert-type scales, the primary researcher asked questions to attempt to address the issues identified (e.g., "Could you please describe why you *strongly disagree*?" and "Do you have any suggestions to improve this issue?"). Furthermore, if certain items were rated as the highest score on the scales (e.g., strongly agree), the primary researcher asked questions to identify critical feasibility features of the TCU online assessment implementation (e.g., "Could you please describe why you strongly agree?"). All interview responses were audio-recorded and transcribed.

Analysis

Data analysis was conducted using SPSS 20.0 for Windows (IBM Corp, 2011). Data gathered through usability and acceptability measures were evaluated descriptively to identify issues pertaining to feasibility among teachers. Scores on both usability and acceptability measures below or above 3 (neutral) on the 5-point Likert scale were addressed through follow-up interviews with the teachers. Responses to open-ended questions on Feasibility questionnaire were summarized. To further understand the feasibility of the TCU and guide revisions to the process prior to the implementation of the TCU online assessment, data gathered through interviews was analyzed by using basic interpretative qualitative analysis (Merriam, 2002). The primary researcher identified (a) general themes found among and across responses, (b) coded the data into categories, (c) revisited codes to determine accuracy and appropriateness with peer debriefing, and (d) recoded data if needed (Creswell, 2009). Data gathered through process measures and interview was then used to inform further revisions of the procedures and process.

Table 1

Measures by Sessions

	Participant	
Session	Teacher	Caregiver
TCU Assessment		
Functional Skills	ABAS-III Teacher Forms	ABAS-III Parents Forms
Expectations/Involvement	Teacher Expectations and Involvement	Caregiver Expectations and Involvement
Prior Work Experience		Prior Employment
Feasibility Survey		
Feasibility	Feasibility Questionnaire	Feasibility Questionnaire
Usability	SUS	SUS
Acceptability	TARF-R	TARF-R
Semi-structured Interview	Interview Protocol	

Note. Adaptive Behavior Assessment III (ABAS-III, Harrison & Oakland, 2015); System Usability Scale (SUS; Brook, 1996); Modified Treatment Acceptability Rating Form-Revised (TARF-R; Reimers, Wacker, & Cooper, 1991).

Study 2: Pilot Test of the Entire TCU

Participants

Local public high schools and transition programs within Eugene, Springfield, Bethel, Creswell, Cottage Grove, Corvallis, and Albany, and Lane ESD school districts in Oregon were contacted, informed of the TCU, and asked to collaborate. Inclusion criteria for teacher participation in this study was as follows: (a) manages at least one case of students who have a diagnosis of an intellectual disability and/or autism spectrum disorder as determined by the special education classification and services they receive in high school (IDEA, 2004); (b) recruits at least one caregiver who is eligible for study participation; and (c) provides consent to participate in all required activities for study participation (i.e., completing the TCU online assessment, pre/posttest assessing self-efficacy and behavioral intention, and process measures; completing online teacher training module; facilitating feedback and goal-setting sessions during IEP meeting; and participating in videoconferencing for delayed performance feedback).

The high school personnel (e.g., the director of special education, the transition coordinator, special education teacher) indicating a willingness to collaborate received introduction letters of the TCU and distributed them to their students' families who could be eligible to participate in the current study. To recruit families, special education teachers contacted families of students with IDD on their caseload based on the following inclusion criteria: (a) families of youths who have a diagnosis of an intellectual disability and/or autism spectrum disorder as determined by the special education classification and services they receive in high school (IDEA, 2004), (b) families of youths ages 16-21, and (c) families who can provide consent to participate in all required activities for the

intervention (i.e., completing the TCU online assessment, pre/posttest, and process measures and participating in feedback and goal-setting sessions during the transition planning meeting).

A total of 16 teacher-caregiver dyads initially consented to study participation; three dyads (25%) dropped out after submitting signed consent. Two teacher-caregiver dyads completed pre-test and the Transition Check-Up online assessment, but both teachers reported that they were not able to continue for the study under their workload at the end of the school year. In the other dyad, the teacher completed pre-test and the TCU online assessment, but the caregiver terminated the study participation due to moving and life circumstance changes. Therefore, a total of 11 teachers and 13 caregivers remained until the completion of the entire TCU intervention.

Among the remaining 11 teacher participants, eight teachers were female (72.7%) and all teachers were European American. Teachers reported the number of years of their teacher experiences: (a) <4 years (36.4%), (b) 5-9 years (18.2%), (c) 10-14 years (9.1%), and (d) >15 years (36.4%). The majority of caregiver participants were female (84.6%). Regarding ethnicity, caregivers identified themselves as Caucasian (84.6%), Hispanic (7.7%), and Asian (7.7%). Among the 13 caregivers, one was an older sister of the child, and two were grandmothers of the child. Six (46.2%) were caregivers of child with ID, three (23.1%) were caregivers of child with ASD, and four (30.8%) were caregivers of child with both ID and ASD.

Settings

The TCU consists of three sessions: (a) the TCU online assessment session of key predictors for employment (i.e., functional skills, prior employment experience, key adult

agents' EICS), (b) a feedback session based on the TCU online assessment results, and (c) a goal-setting session. Teachers and caregivers were asked to complete the TCU assessments through the TCU online system. Feedback and goal-setting sessions took place in a classroom at the school where the special education teacher participant works. Teacher training for the TCU consisted of three sessions: (a) an online training module, (b) an observation of teacher's delivery of the feedback and goal-setting sessions during the IEP meetings, and (c) delayed performance feedback. To receive the online training, all teacher participants had access to Obaverse, a comprehensive mobile-friendly learning management system and communication hub. The other part of the teacher training, the delayed performance feedback, took place through the online video conferencing software Zoom.

Measures

Measures were administered to assess feasibility, usability, and acceptability of the Transition Check-Up (TCU). To evaluate the effects of the TCU, key adult agents' self-efficacy pertaining to supporting their youth across the three key skill areas (i.e., functional skills, key adult agents' expectation/involvement, prior employment experience) and goal-attainment was measured. Study 2 data were collected from both teachers and caregivers in two waves: pre-intervention (T1; baseline) and post-intervention (T2).

TCU measures. An assessment package of the TCU measures includes three instruments to evaluate youths' functional skills, key adult agents' expectation/involvement, and prior work experience (*caregiver only*) as in Study 1.

Functional skills. Functional skills were assessed with the Adaptive Behavior Assessment III (ABAS III, Harrison & Oakland, 2015). See the description in Study 1 above.

Expectations and involvement of key adults. Key adult agents' expectation/involvement was assessed with parent interview items from the NLTS-2. See the description in Study 1 above.

Prior employment. Prior employment experience was assessed by the Prior Employment Questionnaire, including open- and closed-ended question formats. See the description in Study 1 above.

Feasibility measures. An assessment package of the feasibility measures includes two instruments to evaluate feasibility, usability, and acceptability of the TCU.

Usability. Usability of the TCU was measured using a modified System Usability Scale (SUS; Brook, 1996). See the description in Study 1 above.

Social validity. Teacher and parent perceptions of social validity was measured using a modified Treatment Acceptability Rating Form-Revised (TARF-R; Reimers, Wacker, & Cooper, 1991). See the description in Study 1 above.

Treatment integrity.

Fidelity of implementation. Fidelity of implementing the TCU was measured using a custom designed form completed by the primary researcher by observing audio-recorded teacher's facilitation of the feedback and goal-setting sessions. Teachers also completed the same measure based on their reflections of their delivery of the entire TCU. This form is designed to measure teachers' level of implementation fidelity using a Likert type scale ranging from 0 (i.e., not present) to 3 (highly present). See Appendix F.

Dependent variable. Teacher and caregiver self-efficacy was measured through a modified version of Bandura's Teacher Self-Efficacy Scale (TSES, 1997). By following Bandura's guide for constructing self-efficacy scale, 13 items for teachers and 11 items for caregivers were developed based on existing sample questionnaires (Bandura, 2006). Adaptation and development of items followed Bandura's recommendations (1997, 2006), corresponding to the tasks that teachers and caregivers face in the transition planning process. Teachers and caregivers rated their degree of confidence to facilitate learning experiences among their youth with IDD across the three key skill areas including confidence to identify student strengths and needs and confidence to provide effective support for youth's positive postschool employment. Teachers and caregivers responded on the self-efficacy scale ranging from 0 (i.e., "Cannot do at all") to 100 (i.e., "Highly certain can do"). Scores across items were averaged for analyzing data.

Procedures

The TCU consists of three sessions: (a) an assessment session of key predictors for employment, including functional skills, prior employment experience, expectation/involvement of key adults (i.e., teachers, caregivers); (b) a feedback session based on the assessment results; and (c) a goal-setting session. Teacher training for the TCU consisted of three sessions: (a) an online training module through Obaverse, (b) observation of teacher's delivery of the feedback and goal-setting sessions during the IEP meetings, and (c) delayed performance feedback. All participating teachers and caregivers received an electronic gift certificate for the time and effort they committed to the study. Teachers received a $70 electronic gift card. Caregivers received a $35 electronic gift certificate for completing participation in the study.

Teachers and caregivers were asked to complete the self-efficacy scale as soon as they sign on the consent form. Once both teacher and caregiver completed the TCU online assessment, teachers received access to Obaverse, the online website used to provide the online training module. Teachers had two weeks to register and watch all of the contents in each module. During this online module training, teachers (a) reviewed expectations for facilitating feedback and goal-setting sessions; (b) learned key elements of motivational interviewing to facilitate the feedback and goal-setting sessions; (c) applied the basic principles of motivational interviewing techniques in examples; and (d) reviewed expectations for following teacher training components, including observation and delayed performance feedback.

The training materials developed by the primary researcher were used for the online module. The training materials for the module include PowerPoint slides, slide notes for teachers, and a teacher manual (See Appendix G). The training module consisted of an overview of MI principles (i.e., express empathy, develop discrepancy, roll with resistance, support self-efficacy), MI process (i.e., engaging, focusing, evoking, planning), and MI strategies (e.g., open-ended questions, affirmations, reflections, summaries). Furthermore, multiple relevant examples of MI application for working with caregivers were provided for teachers to capture how they could use MI strategies with commonly occurring situations. For example, resistance can arise from the interpersonal interaction between teachers and caregivers during the feedback and goal-setting sessions of the TCU, both of which incorporate MI strategies. Practical guides were offered to facilitate rolling with resistance: (a) avoid arguing for change, (b) resistance is not directly opposed, (c) new perspectives are invited but not imposed, (d) consultee is a

primary resource in finding answers and solutions, and (e) resistance is a signal to respond differently. In addition, to explicitly demonstration of the MI strategies, the manual also included scripted exemplars. With these examples and demonstrations, teachers had an opportunity to apply their gained knowledge of MI to their own case.

Teachers received at least two emails reminding them to register and view the content. Technical support was provided as needed (e.g., creating screen shot directions for enrolling in the course, etc). The teachers were required to view all modules at least one time; however, they continued to have access as needed.

Feedback session. Following the online module training, each teacher facilitated the feedback session to discuss results of the TCU online assessment including students' strengths and needs across the three targeted areas (i.e., functional skills, prior work experience, parent expectations/involvement). The feedback session took place approximately two weeks after the TCU assessment session was completed by both teachers and parents. Based on the motivational interviewing approach, this process was designed to engage caregivers and teachers to motivate change in their supporting behaviors that promote their youth access to needed skills and resources for positive employment outcomes. Motivational interviewing (MI) was designed as an intervention technique to initiate the behavior change process by focusing on motivation to change (Miller & Rollnick, 1991). In addition, data from the TCU online assessments was a critical feature of MI and behavior change. Data are useful for helping teachers and caregivers recognize specific areas to improve (e.g., using transportation) that needed attention and change in the targeted predictor areas (i.e., functional skills, key adult agents' expectation/involvement, prior work experience). The content of the feedback

session was built upon data gathered through the TCU online assessment. Specifically, the results from measures relating to youth's functional skills (ABAS-III), prior work experience (PEQ), and key adult agents' expectation/involvement was discussed. Consistent with an ecological model, the resulting report of the TCU online assessment provides integrated data from school and home.

Based on the online teacher training module, teachers used motivational interviewing approaches to give a brief report of the TCU online assessment results. This approach was used to help caregivers understand the results, build motivation to change, and minimize resistance to suggestions. Non-directive questions (e.g., "What have you learned from participating in this study?") was used to begin the feedback session to encourage a collaborative atmosphere between the teacher and caregiver. The teacher and caregiver discussed strengths and needs by reviewing the assessment result report in order to provide the caregiver with more specific feedback on the targeted three skill areas.

Goal-setting session. After identifying specific areas/skills to target for a youth's positive employment outcomes in the feedback session, teachers and caregivers generated potential tasks to improve the identified targeted skills. By using scratch paper, teachers first modeled brainstorming for generating potential tasks and invited the caregiver to add task options to the list. Teachers and caregivers discussed pros and cons of each task option. After the list of task options was generated, the teachers asked the caregivers to select one or more tasks for their goals. Once the caregiver decided what task options would be prioritized, the teacher and caregiver collaborated to set specific, measurable,

action-oriented, realistic, and timebound (SMART) goals in order to improve critical areas for supporting positive employment outcomes of students with IDD.

Teacher training (delayed performance feedback). Following the observation of the feedback and goal-setting sessions during the IEP meeting, the primary researcher provided each teacher with delayed performance feedback on their delivery of feedback and goal-setting sessions during the transition planning meeting via Zoom meeting, videoconferencing software. The delayed performance feedback was delivered within a week after the feedback and goal-setting sessions. Prior to having the Zoom meeting, teachers and the primary researcher completed the modified Global Scales of Motivational Interviewing Treatment Integrity-Revised created by the Center on Alcoholism, Substance Abuse and Addictions (CASAA; Moyers, Martin, Manuel, Miller, & Ernst, 2010). Both the primary research and teachers completed this scale for delayed performance feedback. The revised motivational interviewing integrity scale includes five items to evaluate the teacher's facilitating skills by using motivational interviewing technique, including evocation, collaboration, autonomy/support, direction, and empathy ranging from 1 (Low) to 5 (High). See Appendix G.

During this delayed performance feedback session, teachers (a) had an opportunity self-reflect on their facilitating behaviors of the feedback and goal-setting sessions (e.g., What went well? What didn't?), (b) shared the adapted Motivational Interviewing Integrity Scale (See Appendix H) completed by both the primary researcher and teachers, and (c) discussed issues and/or solutions to improve teachers' facilitating skills (e.g., What are you going to do differently to solve the issue?). The delayed performance feedback took approximately 15 to 20 minutes.

Within two weeks after completing the delayed performance feedback, teachers were asked to complete the self-efficacy measure and all feasibility measures pertaining to usability and social validity of the TCU process. Caregivers were asked to complete the same measures. These instruments were completed through the online system or in paper and pencil format.

Research Design

One of the goals in Study 2 was to evaluate the potential efficacy of the TCU on self-efficacy of key adult agents (i.e., teachers, caregiver) of students with IDD. This was accomplished by utilizing a one-group pretest and posttest research (Shadish, Cook, & Campbell, 2002). In addition, process data (i.e., feasibility, usability, and social validity) was continuously gathered through Study 2 and these were analyzed to inform final revisions to the procedures.

Data Analysis

Data analysis was conducted using SPSS 20.0 for Windows (IBM Corp, 2011). The primary goal of Study 2 was to continue to gather data on usability and social validity, but within-subjects change before and after the intervention was also evaluated. To achieve these goals, different analytic techniques were used. First, pre-post data pertaining to teacher and caregiver self-efficacy was analyzed using paired samples *t*-test to test for differences between the pretest and posttest measures on the self-efficacy. Second, to determine feasibility, usability, and acceptability, descriptive statistics (i.e., means, standard deviations) were analyzed.

Research Hypotheses

1. Is the TCU perceived as feasible by teachers and caregivers?

   Hypothesis 1: Teachers will implement the TCU with high fidelity as measured by greater than 2 (i.e., present).

2. Is the TCU acceptable to the teachers and caregivers of students with IDD?

   Hypothesis 2: Teachers will rate the TCU as an acceptable intervention as measured by an overall mean item score greater than or equal to 4 on the modified TARF-R.

   Hypothesis 3: Caregivers will rate the TCU as an acceptable intervention as measured by an overall mean item score greater than or equal to 4 on the modified TARF-R.

3. Is the TCU usable to the teachers and caregivers of students with IDD?

   Hypothesis 4: Teachers and caregivers will rate the TCU as a usable intervention as measured by an overall mean item score greater than or equal to 4 on the modified SUS.

4. Does the TCU impact self-efficacy of key adult agents (i.e., teachers, caregivers) for facilitating post high school transitions to employment for students with IDD?

   Hypothesis 5: Teachers will demonstrate greater change on self-efficacy after the TCU intervention ($d \geq .30$).

   Hypothesis 6: Caregivers will demonstrate greater change on self-efficacy after the TCU intervention ($d \geq .30$).

CHAPTER IV

RESULTS

This study examined the initial effectiveness, usability, acceptability, and feasibility of implementing the Transition Check-Up with teachers and caregivers of transition-aged students with intellectual and developmental disabilities. This chapter presents findings from the preliminary analyses, as well as overall results pertaining to each research question.

Study 1: Feasibility Tests of the TCU Online Assessment System

Quantitative Phase

Usability. Usability of the TCU online assessment system was measured using the SUS, which consists of 10 items that are rated on a 5-point Likert-type scale. Table 2 shows the mean and range of responses made by participants for each item on the SUS. In response to Item 3, four teachers (80%) reported that the TCU online assessment system was easy to use and that most people would learn to use it very quickly. In addition, in response to Item 4, all five teachers reported that they would not need technical support to use the system and that the system was mostly consistent. In response to Items 2 and 8, most teachers found that the system was slightly complex and cumbersome to use. To further investigate what caused the teachers' perceptions of the TCU online assessment, semi-structured interviews were conducted with the same teachers. The results are presented in the Qualitative Phase section.

Acceptability. The social acceptability of the TCU online assessment system was measured using a modified version of the TARF-R, which consists of 20 items that are rated on a 5-point Likert-type scale. Table 3 shows the mean and range of responses made by participants for each item on the modified TARF-R. The total acceptability

scores for the five teachers on the modified TARF-R ranged from 43-62, with the overall mean score of 3.25 (*SD* = 0.75). Overall, these data indicated that there were slightly more teachers who perceived the TCU online assessment system as acceptable than teachers who did not. However, the results varied based on each subscale. Teachers gave high ratings on the understanding subscale (*M* = 4.00, *SD* = 1.00), which indicated that they had a clear understanding of the TCU online assessment procedures.

Table 2

SUS scores of all participants for Study 1

Item	Question	Teacher	
		M (*SD*)	Range
1	I think that I would like to use this system frequently.	3.00 (1.23)	1-4
2	I found the system unnecessarily complex.*	3.00 (0.71)	2-4
3	I thought the system was easy to use.	4.00 (0.71)	3-5
4	I think that I would need the support of a technical person to be able to use this system.*	4.20 (0.45)	4-5
5	I found the various functions in this system were well integrated.	3.40 (0.55)	3-4
6	I thought there was too much inconsistency in this system.*	4.20 (0.45)	4-5
7	I would imagine that most people would learn to use this system very quickly.	4.00 (0.71)	3-5
8	I found the system very cumbersome to use.*	2.40 (0.89)	1-3
9	I felt very confident using the system.	3.60 (0.89)	3-5
10	I needed to learn a lot of things before I could get going with this system.*	4.00 (1.00)	3-5

Note. *Includes items that are reverse coded so that a higher score is indicative of a more favorable rating. Total range for scores of the SUS 1-5.

In addition, teachers also gave ratings on the affordability subscale indicating (*M* = 4.30, *SD* = 0.84) indicating that they perceived the TCU online assessment system is

affordable to carry out in their schools. Teachers comparatively gave lower ratings on the willingness subscale (*M* = 2.67, *SD* = 0.67), effectiveness subscale (*M* = 2.73, *SD* = 0.49), and the disruption subscale (*M* = 2.60, *SD* = 0.55). These indicated that teachers did not agree that the TCU online assessment procedure was reasonable in terms of their student's needs and effective in improving their student's employment outcomes. The teachers also found the TCU online assessment procedure could be disruptive to their routine at schools. Further investigation was conducted with semi-structured interviews, the results of which are presented in the Qualitative Phase section.

Table 3

Modified TARF-R scores of all participants for Study 1

Scales	Participant					Maximum possible score	*M* (*SD*)
	1	2	3	4	5		
Total acceptability	43	49	60	54	62	85	3.29 (0.75)
Reasonableness	9	10	11	11	11	15	3.47 (0.30)
Willingness	6	6	10	8	10	15	2.67 (0.67)
Side-effects	10	8	12	11	12	15	3.53 (0.56)
Effectiveness	6	8	9	8	10	15	2.73 (0.49)
Disruption/time	6	7	10	7	9	15	2.60 (0.55)
Affordability	6	10	8	9	10	10	4.30 (0.84)
Severity	10	7	8	6	6	10	3.70 (0.84)
Understanding	5	3	4	3	5	5	4.00 (1.00)

Qualitative Phase

The Qualitative phase included main themes from semi-structured interviews and summary of open-ended questions. Through analyzing interview data, two main themes were identified: (a) Strength and weakness and (b) current practices. Teacher responses from the open-end questions were summarized in the following categories, including advantages and disadvantages of the TCU online assessment, factors that would make it easy and difficult to use, and other feedback.

Strength and weakness. The first domain, 'Strength and weakness,' demonstrated that teachers had different views on the same feature of the TCU online assessment. This theme consisted of two categories. The first category, 'perceptions toward using formal assessment,' indicated that how teachers perceived the formal assessment feature of the TCU online assessment differently. For example, two teachers indicated that they liked the TCU online assessment because it is a formal assessment. As one teacher stated "Usually when we're transition planning, it's not formal enough that (say to caregivers) this is a tool for us to plan things appropriately." In contrast, other teachers differently perceived this formal assessment as a weakness and suggested that they could get more information from an informal interview. As one teacher stated

> "The assessment (TCU online assessment) is too formal. I like to make my IEP meetings more enjoyable and stress-free for students and parents as possible. I tried to have them not feel overly formal. I like it to be more of like an (informal) interview."

The second category, 'perceptions toward a broad of domains on the assessment,' pertaining to how teachers viewed the TCU online assessment including multiple domains. Teachers completed multiple questionnaires covering a broad range of domains, and they shared different perspectives about the assessment. One teacher stated "Assessment like this is so thorough. All those different domains… I felt like it would be

helpful as I shared in there for somebody like especially when a student is aging out, I can pass it off like a baton to agencies." This teacher emphasized the importance of thorough assessment results covering students' varied strengths and needs to become a bridge to other relevant agencies working with students, such as job developers, vocational rehabilitation counselors, and developmental disabilities services. Two other teachers, however, expressed concerns about the number of the TCU online assessment domains. As one teacher stated "The assessment is too much. I have a transition skills assessment that I do on all of my students before their exit. It's much shorter but gives a good snapshot of where they are at."

Current practices. The second dominant theme, 'This is what we (I) do,' indicated that teachers considered how the TCU online assessment could be aligned with their current school/program system to evaluate the effectiveness and acceptability of the TCU online assessment. This second dominant theme also consisted of two categories.

The first category was 'resistance to change.' Each school district and transition program had their own system. Some school systems had more flexibility for teachers to adjust their routine to implement a new system, but other systems were more fixed. For example, one teacher expressed doubts about the feasibility of the TCU online assessment system within her school district system because of barriers in her school district regarding transition assessment. Her school district had a division of labor among special education teachers. Transition specialists were mainly responsible for conducting transition relevant assessments whereas general case managers focused on caseloads and spent less time conducting transition assessments. As she stated "They won't do that assessment. None of them. I am the one that does all the (transition) assessment." Due to

this fixed form of system in a division of labor, the teacher did not think it was feasible to implement the TCU online assessment.

Regardless of the flexibility of the current system, one teacher indicated that she preferred keeping her own system. As this teacher stated, “I don’t want to reinvent the wheel for things that are working well.” She had been using a shorter transition assessment including four transition skills areas she created and conducting, instead of using standardized formal assessment.

The second category was ‘needs to change.’ Teachers shared what they do currently for transition assessment. A teacher reported that the assessment that she used was from courses during her pre-service program 10 years ago and said: “I just created myself and I do it.” Other teachers indicated a great interest in a new system to improve their current transition assessment system. For instance, one teacher explained “We (special education teachers) try to be more efficient and then anyway teachers are seeking some of the assessment that could be used in their IEP meetings.” These teachers’ responses indicated that they were seeking a new assessment system but in an efficient way that they can easily implement in their current system without redundancy.

Summary of Open-Ended Questions (See Table 4 for sample quotes for questions).

Advantages of the TCU online assessment. Most teachers reported that the TCU online assessment was a good tool for taking concrete observations and identifying broader areas of strengths and needs of students. As one teacher stated “Good tool to take concrete observations and anecdotal data and use this to identify broader areas of strengths and weakness, instead of just guessmating areas of strengths and weakness.”

Teachers also found that the TCU online assessment was easy to access and read because of color-coded visuals. One teacher described the TCU as a "simpler," "faster," "more organized," and as an "efficient assessment tool."

Disadvantages of the TCU online assessment. Some teachers found some issues regarding using the TCU online assessment. First, teachers reported that completing the TCU online assessment was "time-consuming" and "laborious" to cover multiple domains and could be just "another piece of online paperwork." Second, some reported that the questions in the TCU online assessment overlapped with other assessments they completed for other service eligibilities, such as SSI and DD services. Third, some teachers reported that the TCU online assessment was too formal and did not get "at the heart of matter." Fourth, some felt that to initiate the assessment, a self-reminder would be needed. Fifth, some teachers mentioned that the TCU online assessment could be too easy to respond to by simply clicking answers without taking enough time to reflect on students.

Other feedback. Teachers' shared additional thoughts regarding using the TCU online assessment. Examples included the following: Follow-up ideas for each identified area, such as goals and services, need to be presented; incorporating the TCU online assessment into school districts' online servers for IEPs; and to collaboratively complete the TCU online assessment with students.

Factors that would make it easy/difficult to use. Teachers identified some factors and circumstances that would make it easy or difficult to use the TCU online assessment. Providing one-on-one on-site support for caregivers to be able to access the assessment was identified as a factor that would enable teachers to use the TCU more successfully in

future IEP meetings. Teachers also suggested presenting support for understanding the visual display of the TCU online assessment results. Similar points were reported as factors that would make it difficult to use the TCU online assessment system as a part of their future IEP meetings. For example, teachers pointed out that the strengths and needs assessment result would not be enough to support teachers in planning. Therefore, some types of follow-up, such as solutions or available services with the assessment would be needed to increase the likelihood that teachers would use the TCU online assessment. Furthermore, teachers identified their work overload, including large caseload size, time and amount of added work for completing the TCU online assessment as factors that would make it difficult to use the assessment.

Based on the results of the initial feasibility test, the following modifications to the system were added prior to implementing Study 2. Tips for technical issues and further clarification for directions were added to teacher and caregiver instructions for the TCU online assessment system.

Table 4

Summary of Open-ended Questions

Question	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Advantages	It would help teachers focus on the various areas of transition for each student without missing one of the areas.	Parents might appreciate that. It is easy to access and read with visuals, including green, yellow, and red.	Good tool to take concreate observations and anecdotal data and use this to identify broader areas of strengths and weakness, instead of just "guessmating" areas of strengths and weakness.	Gives the parent and staff more information as to what the student needs to focus on. Would help in goal-setting	Easier to virtually share Simpler and faster to complete More organized and efficient
Disadvantages	Using an assessment like this would be cumbersome and laborious with little to no gain for my students. I already have a system for running my IEP meetings that works well and keeps the students' thoughts and opinions at the forefront. An assessment like this doesn't get at the heart of the matter. It is too formal and time-consuming for what should be an enjoyable and confidence-building experience.	I feel some of the questions are similar to questions we answer for other like Social Security Eligibility. Parents and students get frustrated answering the same types of questions.	It's another piece of online paperwork and requires parent participation, which can be difficult to get even just for showing up to IEP meetings.	It's time consuming and doesn't leave much time for interaction with student. Maybe it could be used in sections or given over a few visits but then there may not be time for that.	You would need to remind yourself to do it, instead of having a tangible paper assessment in front of you It could be too easy to click, click, click without really taking the time to reflect on that student

Table 4 continued

Question	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Other thoughts/ suggestions	This assessment is almost identical to the Adaptive Behavior Scales I already complete for my students when they apply for developmental disabilities services. It feels incredibly redundant.	I'd like to select and focus on specific skill areas and skip the ones we know that students have achieved.	It'd be great to see follow-up ideas for each identified area. For example, if "School Living: is an area of concern, what are school actions and/or family actions to consider? These categories don't automatically suggest goals and services.	Would be interesting to see if the parent, student, staff agree about areas that need more or less attention.	Incorporate the TCU assessment in school district online server for IEP to enter information in the Transition Services Section that presents specific transition assessment used. Teachers would be more likely to use in their IEP documents. Also would be more accurately effective. Could potentially fill it out with student and they could take part in answers Using technology always increases student participation

Study 2 Results

Table 5 shows the mean and range of responses made by teacher r participants for each session in the fidelity checklist. All sessions (i.e., the TCU online assessment, preparation for feedback, feedback, and goal-setting sessions) met the teacher fidelity of implementation criteria. The overall mean fidelity score for teachers was 2.54. Mean fidelity scores for each sub-session were 2.75 for the TCU online assessment, 2.73 for preparation for feedback, 2.44 for feedback, and 2.23 for goal-setting sessions. These findings support Hypothesis One that the TCU intervention is feasible for teachers to implement with fidelity.

Table 5

Fidelity of Implementation Descriptive Statistics.

Component of TCU	*Mean*	*Min.*	*Max.*
TCU online assessment	2.75	2.00	3.00
Preparation for Feedback	2.73	2.00	3.00
Feedback	2.44	2.00	2.83
Goal-setting	2.23	1.71	2.57
Overall	2.54	2.16	2.85

Note. Total range for teacher fidelity 0-3.

Acceptability

Hypotheses Two and Three. Table 6 shows the mean and range of responses made by both teacher and caregiver participants for each item in the modified TARF-R. The overall mean scores for the total acceptability were 3.46 (*min.* = 2.65, *max.* = 4.24, *SD* = 0.52) on TARF-R for teachers and 3.55 (*min.* = 2.65, *max.* = 4.47, *SD* = 0.53) on TARF-R for caregivers. Overall, these data indicate that the average total acceptability scores reported by both teachers and caregivers were slightly over the item mean, but not greater than acceptable range (i.e., rating of 4 or 5). Caregivers' mean scores on each

subscale were in the neutral range (*min.* = 3.17, *max.* = 3.70) for the total acceptability score. However, as with Study 1, teachers' responses were varied based on each subscale. Teachers rated higher than the item mean on the understanding subscale (*M* = 4.10, *SD* = 0.54), which indicated that they had a clear understanding of the TCU intervention. However, caregivers were only slightly above the item mean on the understanding (*M* = 3.17, *SD* = 1.03) subscale. In addition, teachers rated the reasonableness subscale (*M* = 3.82, *SD* = 0.56) and side-effect subscale (*M* = 3.94, *SD* = 0.47) as above the item mean. Five teachers (46%) reported that the TCU intervention was reasonable in terms of their students' needs and effective in improving their employment outcomes. In addition, nine teachers (82%) considered that their students had needs highly in improving postschool employment outcomes. Teachers comparatively rated lower than the item mean scores on the disruption subscale (*M* = 2.88, *SD* = 0.79), which indicated that teachers found that the TCU online assessment procedure could be disruptive to their routine at schools.

Table 6

Scores of Teacher and Caregiver on the Modified TARF-R

Scales	Mean (*SD*)		Range	
	Teacher	Caregiver	Teacher	Caregiver
Total acceptability	3.46 (0.52)	3.55 (0.53)	2.65 – 4.24	2.65 – 4.47
Reasonableness	3.82 (0.56)	3.44 (0.74)	3.00 – 5.00	2.00 – 4.33
Willingness	3.18 (0.54)	3.58 (0.74)	2.33 – 4.00	2.00 – 4.67
Side-effects*	3.93 (0.47)	3.61 (0.76)	3.00 – 4.78	2.33 – 5.00
Effectiveness	3.55 (0.76)	3.33 (0.51)	2.00 – 4.33	2.33 – 4.00
Disruption/time*	2.88 (0.79)	3.69 (0.73)	2.00 – 4.33	2.33 – 4.67
Affordability	3.36 (0.92)	3.70 (0.72)	2.00 – 5.00	3.00 – 5.00
Severity*	4.23 (0.61)	3.50 (0.95)	3.00 – 5.00	2.50 – 5.00
Understanding*	4.09 (0.61)	3.17 (1.03)	3.00 – 5.00	1.00 – 4.00

Note. *Includes items that are reverse coded so that a higher score is indicative of a more favorable rating. Total range for scores of the modified TARF-R 1-5.

Usability

Hypothesis Four. Table 7 shows the mean and range of responses made by both teacher and caregiver participants for each item in SUS. In response to Item 1, nine teachers (82%) reported that they would like to use the TCU system frequently. In response to Item 3 and Item 5, eight teachers (73%) responded that the TCU system was easy to use, and various functions in the system were well integrated. In response to Item 6, nine teachers (82%) responded "disagree" to there being too much inconsistency in the TCU system. Eight teachers (72%) also responded "disagree" to the system was very cumbersome to use on Item 8. Similarly, seven caregivers (54%) selected "disagree" to the system was very cumbersome to use on Item 8. In response to Item 3, eight caregivers (62%) reported that most people would learn to use the system very quickly.

Potential Efficacy of the TCU

Paired samples *t*-tests were conducted to determine the initial efficacy of the TCU on key adult agents' self-efficacy. Prior to conducting the analysis, the main assumption that the differences for paired data have an approximately normal distribution was tested visually by using histograms and the Shapiro-Wilk statistical test. Results for each *t*-test are presented in Table 8.

Hypothesis Five. To test the hypothesis that teachers would demonstrate greater change on self-efficacy after the TCU intervention, a dependent sample *t*-test was conducted. Prior to conducting the analysis, the assumption of normally distributed difference scores was examined. The assumption was considered satisfied, as the skew and kurtosis levels were estimated at 0.08 and - 0.79, respectively, which is less than the maximum allowable value for a *t*-test (i.e., skew < |2.0| and kurtosis <|9.0|; Posten, 1984).

Teachers' self-efficacy mean at post-intervention (M = 77.83, SD = 7.23) was statistically significantly higher than the pre-intervention mean (M = 65.59, SD = 13.61), $t(10) = -3.07$, $p < 05$. Cohen's d was estimated at 1.12, which is a large effect based on Cohen's (1992) guidelines.

Hypothesis Six. To test the hypothesis that caregivers would demonstrate greater change on self-efficacy after the TCU intervention, a dependent sample *t*-test was conducted. The assumption of normally distributed difference scores was considered satisfied, as the skew and kurtosis levels were estimated at 0.07 and - 0.25, respectively. Caregivers' self-efficacy mean at post-intervention (M = 69.62, SD = 12.87) was not statistically significantly higher than the pre-intervention mean (M = 65.87, SD = 17.94), $t(11) = -0.83$, $p > 05$. Cohen's d was estimated at 0.24, which is a small effect based on Cohen's (1992) guidelines.

Table 7

Scores of Teacher and Caregiver on SUS

Item	Question	Teacher		Caregiver	
		M (*SD*)	Range	*M* (*SD*)	Range
1	I think that I would like to use this system frequently.	3.91 (0.54)	3-5	3.50 (1.09)	1-5
2	I found the system unnecessarily complex.*	3.38 (0.67)	2-4	3.58 (1.00)	2-5
3	I thought the system was easy to use.	3.64 (0.67)	2-4	3.25 (1.14)	1-5
4	I think that I would need the support of a technical person to be able to use this system.*	3.36 (1.29)	2-5	3.17 (0.94)	2-5
5	I found the various functions in this system were well integrated.	3.73 (0.79)	2-5	3.42 (1.00)	1-5
6	I thought there was too much inconsistency in this system.*	4.00 (0.63)	3-5	3.50 (1.09)	1-5
7	I would imagine that most people would learn to use this system very quickly.	3.55 (0.93)	2-5	3.58 (1.00)	1-5
8	I found the system very cumbersome to use.*	3.64 (0.92)	2-5	3.33 (1.07)	1-5
9	I felt very confident using the system.	3.27 (0.79)	2-4	3.25 (1.06)	1-5
10	I needed to learn a lot of things before I could get going with this system.*	3.18 (0.87)	2-4	3.17 (1.19)	1-5

Note. *Includes items that are reverse coded so that a higher score is indicative of a more favorable rating. Total range for scores of the modified TARF-R 1-5.

Table 8

Results of the Paired t-Test Analyses

Measure	Pre-test		Post-test		*t*-test	*p*-value	Effect Size
	M	*SD*	*M*	*SD*			*d*
Hypothesis 5: Self-efficacy of teacher	65.59	13.61	77.83	7.23	- 3.07	.01	1.12
Hypothesis 6: Self-efficacy of caregiver	65.87	17.93	69.62	12.87	- 0.83	.43	0.24

CHAPTER V

DISCUSSION

The next section discusses how the findings from this study contribute to filling gaps in a school-based family-centered transition planning process for students with IDD. The current study 1 examined the feasibility, usability, and acceptability of implementing the Transition Check-Up (TCU) online assessment system. Study 2 also explored usability, feasibility, and acceptability, but also included self-efficacy.

Results of Study 1

Results of the quantitative phase indicated that teachers perceived that the TCU online assessment system was easy to use and they thought most people would learn the system quickly with little support. Results also indicated that the average total acceptability score was slightly above the item mean, but not greater than the acceptable range set as a priori benchmark score. However, the results varied across teacher responses and each subscale. Some teachers perceived that the TCU online assessment system was slightly complex and cumbersome to use and could be disruptive to their ongoing existing routines. One possible explanation for these Study 1 findings is that the TCU online assessment system was just launched as a pilot at the time the study was initiated and the system was not completely stable and user friendly yet. Therefore, some teachers had technical issues and needed time for troubleshooting process. These technical issues could have impacted teacher perceptions of using and accepting the TCU online assessment system.

In addition to these quantitative findings, qualitative data analysis revealed two main themes: (a) strengths and weaknesses and (b) current practices. The findings

indicated that teachers had different views on the same feature of the TCU online assessment as either strengths or weaknesses, and that they considered their current practices to evaluate usability and acceptability of the TCU online assessment in their school routines. These findings are important to understand in-depth what features of the system and factors had an impact on teachers' perceptions of using and accepting the TCU online assessment system. Some teachers expressed resistance to using the TCU online assessment in their current schools. As a practical approach to deal with resistance, future researchers may want to consider motivational interviewing from the outset of implementation during participant recruitment when introducing the TCU system, and throughout other initial interactions. Miller and Rollnick (2002) provided some guidelines to facilitate rolling with resistance, and implementing these practices could help teachers perceive the TCU online assessment as a usable and acceptable tool in their school systems.

Results of Study 2

Fidelity of implementation

Fidelity of implementation findings indicated that overall ratings from teachers were positive although there were varied ratings across different sessions. The fidelity of implementation had a mean score of greater than or equal to 2.0 on a 4-point scale, and scores ranged from 0 to 3. However, the ratings varied in each teacher's responses across the sub-sessions. For example, the online assessment session was delivered with the highest fidelity mean score. While interacting with teachers during the TCU intervention, most teachers expressed that the system was easy to navigate, from creating a profile to filling out the assessments. However, some teachers and caregivers experienced technical

issues with the TCU online assessment system and needed technical support from the primary researcher and the TCU online system administrator.

Preparation for the feedback was scored as the next highest fidelity item. Teachers were easily able to complete the TCU online training module, and using the TCU Feedback Form was reported as very helpful for reviewing and organizing assessment results prior to sharing summaries with caregivers. The feedback session was delivered with fidelity, but slightly lower than the first two sessions. Most of the teachers indicated that providing advice only when requested by caregivers was difficult. After the MI training, teachers were more mindful about it throughout the feedback session, but the concept was still foreign for them to naturally apply it. Similarly, they felt they still needed reminders and repetition to be more familiar with linking the data and feedback to MI principles.

The goal-setting session had mean scores slightly lower than the other sessions. Some items under the goal-setting session were not delivered or delivered with less than optimal level of fidelity. Multiple teachers reported that they struggled with identifying supporting goals with caregivers. The goal-setting sessions went smoothly when the caregivers were more actively involved and ready to share their own ideas. However, some caregivers were more dependent on teachers' expertise and needed more teacher prompts. When caregivers remained passive during the goal-setting sessions, teachers reported that they struggled with long silences and feeling awkward during the meeting. Additionally, some teachers mentioned they were not able to take enough time to prompt caregivers to identify and set goals to support for their child because of time restrictions.

A few reasons for the variations in scores were considered with further examination of the fidelity data. First, teachers reported that they still needed more practice to improve facilitating the feedback and goal-setting session using the motivational interviewing principles. To help with this, the current training mode (i.e., an online self-paced learning module) could potentially be combined with a standalone workshop offering hands-on activities. Due to the restricted time, however, teachers indicated that they would need someone else to come to their building to deliver the workshop because they would not have time to participate in outside activities. In addition to an in-person workshop, including a video clip demonstrating how the feedback and goal-setting sessions could be facilitated might also improve teachers' ability to effectively implement the key features of the MI.

Teachers also indicated resistance to including the feedback and goal-setting sessions in the IEP meeting because this added extra time to the entire team. For example, one teacher implemented the TCU during the IEP meeting. For this case, the IEP team was larger than other cases with multiple services providers. The teacher reported that she liked setting the IEP goals with the caregiver and coming up with supporting goals to meet the IEP goals for both school and the home. However, the meeting got longer and the teacher needed to rush at the end and skip some parts of the TCU process in order to end in a timely manner. Each IEP case is unique, so to customize for each case, the TCU structure would need to be flexible. Teachers may implement the feedback session during the IEP meeting but move the goal-setting session with caregivers to the end of the IEP meeting. Other teachers may need to take care of critical issues with the IEP team, and

then work with caregivers separately. Increasing the flexibility of the TCU implementation It could potentially help to address some of these challenges.

In summary, many of the difficulties that teachers reported did not appear to be due to the inability of teachers to conduct the TCU intervention components in school settings. Rather, difficulties came from the design, structure, training, and session scripts or directions. Given these findings, the TCU would benefit from further development and input from special educators and caregivers of students with IDD.

Acceptability

In this study, the modified TARF-R was used to evaluate key adult agents' ratings of social validity. Both teachers and caregivers rated on a 5-point Likert-type rating scale (i.e., 1=Not at all acceptable to 5=Very acceptable) to measure perceptions of the acceptability of the TCU. Overall, results indicate that the total acceptability mean scores reported by both teachers and caregivers were slightly over the item mean, but not greater than the acceptable range of the a priori benchmark score (i.e., rating of 4 or 5). However, the responses were varied based on each subscale. For example, teachers had high ratings on the understanding subscale, which indicated that they had a clear understanding of the TCU intervention. However, caregivers gave slightly low ratings on the understanding subscale. One possible explanation for these findings is that the primary researcher closely communicated with teachers during the intervention process and delivered instructions for each step, but caregivers were guided through the process by teachers. It is possible that caregivers' levels of understanding may have been negatively impacted by teacher guidance and future efforts should consider a more intensive training protocol for caregivers.

In addition to these findings, teachers gave comparatively low ratings on the disruption subscale (M = 2.88, SD = 0.79), which indicated that teachers found that the TCU procedure could be disruptive to their school routines. Although the TCU has common components that are already required by most school systems (i.e., transition planning during the IEP process), the TCU intervention is still a new concept to both teachers and caregivers, and it requires a certain level of restructuring existing processes for them. This could have had an impact on both groups' responses.

Potential Efficacy

Teachers, but not caregivers, demonstrated meaningful differences in their self-efficacy after the TCU intervention. The effect on teacher self-efficacy is positive and suggests that the process may improve teacher confidence for implementing a systematic transition planning process. In contrast, failure to find treatment effect on caregiver self-efficacy may have been due to an adaptation failure. Although the TCU and the current practices used by schools have common components, teachers may need to adapt the TCU components to fit into their current system based on the uniqueness of each school system. During this adaptation process, some key components were missed and led to the lack of treatment effects on the caregivers' self-efficacy. Another explanation for the lack of treatment effects on caregivers could also be due to the brief amount of training related to how to conduct the TCU components. As teachers reported that they would need more practice and in-depth training to apply motivational interviewing, the brief amount of training could have had an impact on teachers' competent performance facilitating feedback and goal-setting sessions, which was a critical component in motivating the caregivers to adopt supporting behaviors for their child and enhance their self-efficacy.

Another possibility is that with such a low number of participants and higher variation among caregivers, that there was not enough power to detect a difference.

Limitations

This study had several limitations. It was designed as a pilot study focusing on testing usability, acceptability, and feasibility of implementing the TCU in a transition planning process to enhance collaboration between school and home for students with IDD. This study also explored a change in key adult agents' self-efficacy regarding supporting key predictors for positive employment outcomes of students with IDD and their goal attainment.

A pre-experimental, one group, pre-post test research design was used (Campbell & Stanley, 1963). Within this design, a baseline pretest, an intervention, and a subsequent posttest were delivered to a group of teacher and caregiver participants. Because this study was not experimental in nature, it is not possible to draw a causal relationship between the Transition Check-Up and changes in the primary outcome variables. In addition, the absence of a control group limits the ability to control for threats to internal and external validity.

Second, the TCU was tested with a small sample size which may have led to a lack of statistical power to adequately detect intervention effects. Considering that IDD has a low-incidence rate in the populations, recruiting teachers and caregivers of students with IDD is challenging. The current study was also limited with regard to the diversity of participants as the majority of both teachers and caregivers were White and female. Thus, conclusions drawn from this sample are not representative of other racial and

ethnic groups and both limitations affect the ability to generalize these results across all teachers and families in special education.

Third, it is possible that scores on some of the outcome variables can be attributed to a measurement error made due to the imperfection of the given measures' abilities to tap the construct of interest as well as context variables that were not measured. In addition, the measures used for the current study were not tested yet the extent to which each measurement tool accurately measures what it is intended to measure. Future research that conducts validity tests for measures such as the ones used here is recommended.

Fourth, the feedback and goal-setting sessions during the transition planning meeting were manualized with scripts to guide teachers who may not have had a background in motivational interviewing. Research in motivational interviewing and other counseling interventions suggests that manualized treatments are less effective than non-manualized treatment (Miller & Rose, 2009; Messer & Wampold, 2002). This limitation emerged from teacher participants' feedback. Some teachers indicated that they wanted more in-depth, hands-on activities, such as one-on-one or group workshops, although they liked the self-paced online training module.

Implications for Research

Further research is needed to fully understand the impact of the Transition Check-Up on key adult agents' self-efficacy and goal attainment. Using experimental research designs will provide a basis for conclusions about the effect of the Transition Check-Up. In addition, use of an experimental research design will help determine the active

ingredients of the Transition Check-Up and provide more precise understanding of how the Transition Check-Up might impact these constructs.

It is also important to collect longitudinal data toward students' employment outcomes beyond the pre- and post-test on key adult agents' self-efficacy and goal-attainment. There is a dearth of longitudinal studies focused on post school employment outcomes of students with IDD. Engaging in longitudinal research will help in understanding whether the Transition Check-Up affects students' immediate and postsecondary success. In addition to students' long-term employment, it would be meaningful to explore the TCU assessment results, including students' functional skills, key adults' expectations and involvement, and students' prior employment. In future studies, longitudinal quantitative data collection along these multiple aspects should be combined with in-depth individual qualitative interviews, which will provide a rich addition to the quantitative data.

The current study identified time as an issue for teachers to implement the TCU intervention, but there is no specific data collected to examine certain factors to cause this time barrier. In the future research, how many caseloads each teacher has will need to be examined in addition to who is on their caseloads. Students with multiple disabilities usually have more serviced providers on the IEP team, and this often leads to longer IEP meetings time and more communication efforts needed by teachers. It would be great to focus on what specific factors contributed to the difficulties of the TCU implementation. Furthermore, it would be helpful to examine the relations between number of years of teaching experience and scores of teacher expectations and involvement, self-efficacy,

usability and acceptability, and other fidelity measures (e.g., fidelity checklist, motivational interviewing integrity scale).

Although the current study measured acceptability and usability from caregivers, their perspectives on participation in the TCU intervention were not thoroughly articulated enough to understand what specific features of the TCU intervention they liked and did not like. In particular, future studies need to investigate caregivers' perspectives on participation in a feedback and goal-setting conversation, satisfaction with the experience, and resulting goals.

Conclusion

High school special education teachers and caregivers of students with IDD participated in a family-centered, school-based transition services delivery model, the Transition Check-Up (TCU), focused on improving employment outcomes among students with IDD. The TCU uses three components identified in the literature showing promise for transition-aged students with disabilities: (a) assessment of key predictors for employment (i.e., functional skills, prior employment experience, caregiver expectation/involvement), (b) feedback based on the assessment results, and (c) a goal-setting. Although the results did not demonstrate higher levels of feasibility, acceptability, usability, and treatment effect of the TCU from both teacher and caregiver, the findings provide support for an ongoing investigation into the TCU intervention.

APPENDIX A

FEASIBILITY QUESTIONNAIRE

Instructions: Please take a few minutes to tell us what you think about the possibility of using the Transition Check-Up (TCU) online assessment system as a part of your future individualized education/transition plan (IEP/ITP) meetings. There are no right or wrong responses. We are merely interested in your personal opinions. In response to the questions below, please list the thoughts that come immediately to mind. Write each thought on a separate line.

1. What do you see as the **advantages** of using the Transition Check-Up online assessment system as a part of IEP/ITP meetings?

2. What do you see as the **disadvantages** of using the Transition Check-Up online assessment system as a part of IEP/ITP meetings?

3. What else comes to mind when you think about using the Transition Check-Up online assessment system as a part of IEP/ITP meetings?

FEASIBILITY QUESTIONNAIRE (CONTINUED)

When it comes to your using the Transition Check-Up (TCU) online assessment system as a part of your future IEP/ITP meetings, there might be individuals or groups who would think you should or should not use it.

1. Please list individuals or groups who would approve or think you should use the TCU online assessment system as a part of your future IEP/ITP meetings. (e.g., parents, sped colleagues, administrators, etc.)

2. Please list the individuals or groups who would disapprove or think you should not use the TCU online assessment system as a part of your future IEP/ITP meetings.

3. Sometimes, when we are not sure what to do, we look to see what others are doing.

   3-1. Please list who would **most** likely use the TCU online assessment system as a part of IEP/ITP meetings (e.g., sped teachers of students with severe disabilities, transition specialist).

   3-2. Please list who would **least** likely use the individuals or groups who are least likely to use the TCU online assessment system as a part of your following IEP/ITP meetings (e.g., sped teachers of students with severe disabilities, transition specialist).

FEASIBILITY QUESTIONNAIRE (CONTINUED)

1. Please list any factors or circumstances that would make it easy or enable you to use the TCU online assessment system as a part of your future IEP/ITP meetings.

2. Please list any factors or circumstances that would make it difficult or prevent you from using the TCU online assessment system as a part of your future IEP/ITP meetings.

APPENDIX B

SYSTEM USABILITY SCALE

	Strongly Disagree				Strongly Agree
1. I think that I would like to use the TCU frequently.					
	1	2	3	4	5
2. I found the TCU unnecessarily complex.					
	1	2	3	4	5
3. I thought the TCU was easy to use.					
	1	2	3	4	5
4. I think that I would need the support of a technical person to be able to use the TCU.					
	1	2	3	4	5
5. I found the various functions in the TCU were well integrated.					
	1	2	3	4	5
6. I thought there was too much inconsistency in the TCU.					
	1	2	3	4	5
7. I would imagine that most people would learn to use the TCU very quickly.					
	1	2	3	4	5
8. I found the TCU very cumbersome to use.					
	1	2	3	4	5
9. I felt very confident using the TCU.					
	1	2	3	4	5
10. I needed to learn a lot of things before I could get going with the TCU.					
	1	2	3	4	5

APPENDIX C

TREATMENT ACCEPTABILITY RATING FORM-REVISED

Please complete the items listed below by placing a check in the box that best indicates how you feel about the Transition Check-Up.

1. How clear is your understanding of the Transition Check-Up?				
☐ Not at all clear	☐	☐ Neutral	☐	☐ Very clear
2. How acceptable do you find the Transition Check-Up regarding your concerns about your student?				
☐ Not at all acceptable	☐	☐ Neutral	☐	☐ Very acceptable
3. How willing would you be to carry out the Transition Check-Up?				
☐ Not at all willing	☐	☐ Neutral	☐	☐ Very willing
4. Given your student's challenges regarding employment, how reasonable do you find the Transition Check-Up?				
☐ Not at all reasonable	☐	☐ Neutral	☐	☐ Very reasonable
5. How costly will it be to carry out the Transition Check-Up?				
☐ Not at all costly	☐	☐ Neutral	☐	☐ Very costly
6. To what extent do you think there will be disadvantages to implementing the Transition Check-Up?				
☐ No disadvantages	☐	☐ Neutral	☐	☐ Many disadvantages

TREATMENT ACCEPTABILITY RATING FORM-REVISED (CONTINUED)

7. How likely is it that the Transition Check-Up will make permanent improvements in your student's transition to employment?				
☐ Not at all likely	☐	☐ Neutral	☐	☐ Very likely
8. How much time would be needed each day for you to implement the Transition Check-Up?				
☐ Little time	☐	☐ Neutral	☐	☐ Much time
9. How confident are you that the Transition Check-Up will be effective?				
☐ Not at all confident	☐	☐ Neutral	☐	☐ Very confident
10. Compared to other students, how serious are your student's challenges regarding transition to employment?				
☐ Not at all challenging	☐	☐ Neutral	☐	☐ Very challenging
11. How disruptive will it be to the school (in general) to carry out the Transition Check-Up?				
☐ Not at all disruptive	☐	☐ Neutral	☐	☐ Very disruptive
12. How effective is the Transition Check-Up likely to be for your student?				
☐ Not at all effective	☐	☐ Neutral	☐	☐ Very effective

TREATMENT ACCEPTABILITY RATING FORM-REVISED (CONTINUED)

13. How affordable is the Transition Check-Up for your school?				
☐ Not at all affordable	☐	☐ Neutral	☐	☐ Very affordable
14. How much do you like the procedures used in the Transition Check-Up?				
☐ Do not like them at all	☐	☐ Neutral	☐	☐ Like them very much
15. How willing will other co-workers members be to help carry out the Transition Check-Up?				
☐ Not at all willing	☐	☐ Neutral	☐	☐ Very willing
16. To what extent are undesirable side-effects likely to result from the Transition Check-Up?				
☐ No side-effects are likely	☐	☐ Neutral	☐	☐ Many side-effects are likely
17. How much discomfort is your student likely to experience during the Transition Check-Up?				
☐ No discomfort at all	☐	☐ Neutral	☐	☐ Much discomfort
18. How severe is your student's difficulties regarding transition to employment?				
☐ Not at all severe	☐	☐ Neutral	☐	☐ Very severe

TREATMENT ACCEPTABILITY RATING FORM-REVISED (CONTINUED)

19. How willing would you be to change your school routine to carry out the Transition Check-Up?				
☐ Not at all willing	☐	☐ Neutral	☐	☐ Very willing
20. How well will carrying out the Transition Check-Up fit into your school routine?				
☐ Not at all well	☐	☐ Neutral	☐	☐ Very well

APPENDIX D

THE TCU ONLINE ASSESSMENT RESULTS

Teacher's Adaptive Behavior

Skill Area	Needs Attention	Some Concern	Strength	Responses Guessed (%)
Communication	39			0
Community Use			40	60
Functional Academics			56	13.64
School Living			50	0
Health and Safety			40	0
Leisure		31		0
Self-Care			55	5.26
Self-Direction		38		0
Social	40			0

Parent's Adaptive Behavior

Skill Area	Needs Attention	Some Concern	Strength	Responses Guessed (%)
Communication			55	0
Community Use			34	0
Functional Academics		40		0
Home Living		36		0
Health and Safety			51	0
Leisure	26			0
Self-Care			61	0
Self-Direction			43	0
Social	41			0

Teacher's Other Measures

Skill Area	Needs Attention	Some Concern	Strength
Expectations			2.45
Involvement	1.89		
Confidence		2.33	
Satisfaction			3.25

Parent's Other Measures

Skill Area	Needs Attention	Some Concern	Strength
Expectations			2.36
Involvement	1.89		
Confidence	1.33		
Satisfaction		2.5	

Child's Work Status

Question	Response
Has your child ever had a job:	No
Reasons that he or she does not have a job:	Too young to work Does not know how to find a job Not interested in working Cannot work because going to school or training
Other:	

APPENDIX E

SEMI-STRUCTURED INTERVIEW PROTOCOL

Introduction

Interviewer: Hi, [*Interviewee's Name*]. Thank you for participating in this interview session. You participated in the Transition Check-Up intervention and completed three different measures to evaluate the Transition Check-Up process, which are Feasibility Questionnaire, System Usability Scale, and Treatment Acceptability Rating Form. Based on your responses on the three measures, I would like to learn more details about how you think of the Transition Check-Up process. Prior to your participation in the current study, you were informed that the entire interview session will be voice recorded and you agreed on it. With your consent, I will start voice recording from now.

[*Start Voice Recording*]

I reviewed your responses across the three measures you completed and found that you rated some items as higher or lower than average. I will ask questions about what features you liked and did not like among the Transition Check-Up process and what things to be changed for improving the Transition Check-Up process.

Identify Issues

Q1. You rated the item [# *Item Number*] on the Feasibility Questionnaire as [one of these: *strongly disagree*, *disagree*, *slightly disagree*, *strongly agree*]. Could you please describe why you [either one of these: *strongly disagree*, *disagree*, *slightly disagree*, *strongly agree*] on that [*Item Statement*]?

[If interviewee describes why he or she rated as *strongly agree*] **Stop Here.**
[If response is rated as one of these: *strongly disagree*, *disagree*, *slightly disagree*] **Move to Q2**.

Q2. Do you have any suggestions to improve this issue?

SEMI-STRUCTURED INTERVIEW PROTOCOL (CONTINUED)

Clarification

[If interviewee's written response needs further explanation and/or clarification] **Move to Q1**.
[If any response is left out] **Move to Q2**.

Q1. To the question, [*Item Statement*] on the Feasibility Questionnaire, you said [*Interviewee's written response*] on the Feasibility Questionnaire. Could you please describe to me what it means?

Q2. To the question, [*Item Statement*] on the Feasibility Questionnaire, you left a blank. Do you have specific reason you did not respond to the question? [If the response is accidentally omitted, let interviewee complete to rate the item.]

Wrap-Up

Do you have any comments or questions? [Pause and give enough time to interviewee]
It was great talking with you. Thank you very much for taking your time to participate in this interview session. I sincerely appreciate your participation.

APPENDIX F

TCU FIDELITY CHECKLIST

Component	**0** *not present*	**1** somewhat present	**2** present	**3** highly present
TCU online assessment				
1. Create a case for caregiver on TCU online assessment system (Generate a password for parent)	O	O	O	O
2. Invite caregiver to access TCU online assessment (Send instructions, including a link to TCU online assessment system.)	O	O	O	O
3. Complete entire TCU online assessment (i.e., ABAS-III, Engagement/Involvement/Confidence/Satisfaction)	O	O	O	O
4. Check in with caregiver (Remind caregiver who did not initiate the assessment or did not complete yet, Check in how caregiver has been doing with the assessment)	O	O	O	O
5. Print out visualized results of TCU online assessment.	O	O	O	O
Prep for Feedback Session				
1. Complete TCU online training module on Obaverse.	O	O	O	O
2. Summarize data on feedback form for review with caregiver.	O	O	O	O
Feedback Session				
1. Explain TCU feedback form	O	O	O	O
2. Start with positive examples of caregiver strengths	O	O	O	O
3. Provide examples of areas in need of attention	O	O	O	O
4. Ask for caregiver input throughout the feedback session	O	O	O	O
5. Provide advice only when requested by caregiver	O	O	O	O
6. Link the data and feedback to MI principles	O	O	O	O

TCU FIDELITY CHECKLIST (CONTINUED)

Component	**0** *not present*	**1** somewhat present	**2** present	**3** highly present
Goal-setting Session				
1. Prompt caregiver to identify supporting goals to improve the areas in need of attention	O	O	O	O
2. Collaboratively choose the areas in need of attention	O	O	O	O
3. Guide caregiver to set a goal under each chosen area	O	O	O	O
4. Collaboratively design a plan of action with caregiver	O	O	O	O
5. Ask caregiver about the confidence and importance rulers	O	O	O	O
6. Brainstorm any possible barriers to the plan with caregiver	O	O	O	O
7. Schedule a follow-up check-in	O	O	O	O

APPENDIX G

TEACHER MANUAL FOR TRANSITION CHECK-UP

Transition Check-Up (TCU)

Teacher Manual

Created by Seunghee Lee, M.A.

University of Oregon

Aug 2018

Welcome

Hello! This is your TCU Teacher Manual. In here you will find information about the Transition Check-Up (TCU), motivational interviewing infused in the TCU, and tips on how to conduct the TCU. The TCU is a transition service delivery model based on collaborative motivation interviewing for teachers and families in the role of supporting transition aged-youths with intellectual and developmental disabilities (IDD) to support their successful transition to work after high school graduation. My goal is to make evidence-based training and resources easily accessible to school professionals and families in their efforts to create positive support for the transition-aged youths with IDD. As a part of the TCU, this professional development course is offered for teachers to be able to actively engage the youths' families in the transition planning process.

As you go through the Transition Check-Up, please feel free to contact me with questions and feedback via email (slee17@uoregon.edu) or phone (541-525-****). I am thankful for your participation.

Seunghee Lee, M.A.

What is the Transition Check-Up (TCU)?

The Transition Check-Up (TCU) is a teacher and family-centered, school-based service delivery model designed to improve employment outcomes among students with intellectual and developmental disabilities (IDD). The TCU uses three components identified in the literature as showing promise for employment outcomes of transition-aged students with disabilities. These include

- an **assessment** of key predictors for employment (i.e., functional skills, prior employment experience, caregiver expectations/involvement)
- a **feedback** session based on the assessment results, and
- a **goal-setting** session.

Research Rationale

Multiple studies have identified evidence-based practices and predictors associated with successful transition outcomes among students with disabilities. This research recommends supporting students' functional life skills, prior work experience during high school years, and caregiver expectations/involvement in the transition planning process for improving employment outcomes among students with disabilities (Baer, Daviso, Flexer, Queen, & Meindl, 2011; Carter, Austin, & Trainor, 2011; Carter et al., 2012; Simonsen & Neubert, 2013; Test et al., 2009; Wehman et al., 2015). The Transition Check-Up (TCU) is an intervention that improves functional skills, prior work experiences, and caregiver expectations and involvement by targeting teachers and caregivers through an assessment-feedback-goal-setting process.

The assessment-feedback-goal setting process focuses specifically on employment-related outcomes for students with IDD. By considering the unique needs of transition-aged students with IDD, the TCU includes assessment of key predictors for postschool employment outcomes (i.e., functional skills, prior employment experience, caregiver expectations/involvement) as evaluated by teachers and caregivers, a feedback session based on the assessment results, and a goal-setting session. The TCU is a family-centered, school-based service delivery model for transition planning designed to improve employment outcomes of students with IDD by targeting change in key adult agents (i.e., teacher, caregiver)' supporting behavior for their child.

Three components of the TCU

- **Assessment**: Predictors associated with employment outcomes are assessed by both teacher and caregivers using the online Transition Check-Up assessment, including (a) a multi-informant norm-referenced measure of functional skills, (b) assessment of key adult agents' expectations and involvement, and (c) a brief survey questionnaire about prior employment experiences of students with IDD (*caregiver only*). The goal of the assessment session is to provide an overview of strengths and needs across multiple individuals and ecological domains, including functional skills, key adult agents' expectation/involvement, and prior work experiences. These assessment results will be used by teachers and caregivers to identify student strengths and risk factors related to long-term employment outcomes.

- **Feedback**: Once assessment data is gathered from both teacher and caregiver, the teacher meets with the caregiver to present the results of the assessments by using **motivational interviewing (MI)**. A menu of options is developed collaboratively with the caregiver, and specific goals will be targeted to improve employment outcomes of youth with IDD. Sharing assessment results with the caregiver can enhance their engagement and their own capacity for making meaningful decisions about their family (Sanders & Lawton, 1993). Research indicates that *motivation* to change is a key ingredient of change behaviors (Prochaska & Norcross, 1999). **MI** is designed as a guiding style to prompt the behavior-change process by focusing on motivation to change (Miller & Rollnick, 2002). During the feedback session, principles and techniques of MI are used to guide communication and include a feedback protocol in which assessment results are shared with the caregiver in a non-directive fashion.

- **Goal-setting**: As a part of the collaboration with the caregiver in the feedback session, the goals are narrowed and intended outcomes are specified. Based on the result of the assessments, teacher and caregiver collaborate to set specific, measurable, action-oriented, realistic, and timebound (SMART) goals in order to improve critical main areas for supporting positive employment outcomes of student with IDD. In addition, both key adult agents (i.e., teacher and caregiver) identify action-oriented plans to obtain the goals. Setting goals and plans to attain them allow individuals to monitor their progress toward the goals and evaluate their progress objectively. Following the feedback session, the teacher contacts the caregiver to check in if the caregiver makes any progress toward the goals they set together.

What is Motivational Interviewing (MI)?

Miller and Rollnick (2013) define motivational interviewing (MI) as

> "a collaborative, goal-oriented style of communication with particular attention to the language of change. It is designed to strengthen personal motivation for and commitment to a specific goal by eliciting and exploring the person's own reasons for change within an atmosphere of acceptance and compassion (Miller & Rollnick, 2012)."

Four components of MI spirit

- **Compassion** requires a facilitate to pursue the welfare and best interests of caregivers. To actively promote the caregivers' welfare, to give priority to the caregivers' needs. It is the deliberate commitment to pursue the welfare and best interests of the caregivers
- **Partnership (Collaboration)** involves the recognition that MI is done with and for people, not to them, and the recognition that people "are the undisputed experts on themselves" (Miller & Rollnick 2013, p. 15)
- **Acceptance** includes an attitude of tolerance, irrespective of whether or not the teacher approves of the caregiver's behavior or beliefs. Miller and Rollnick refer to four aspects of acceptance: (a) absolute worth, (b) autonomy, (c) accurate empathy, and (d) affirmation.
- **Evocation** involves the adoption of a strengths-based perspective, the belief that caregivers already have the tools to make change consistent with their goals and values. Therefore, the teacher needs not be concerned with providing expert information but rather calling forth this knowledge.

Fundamental process and strategies of MI

There are four processes in MI: **(1) engaging, (2) focusing, (3) evoking,** and **(4) planning**. The core skills associated with an MI approach are applied across all four processes and they are represented by the acronym **OARS: open-ended questions, affirmations, reflections,** and **summaries.** These core skills are applied uniquely and strategically during each of the four processes.

(1) Engaging is to develop an understanding of the issue regarding the youth postschool employment from the caregiver's perspective, learn about the effect the issue has on various aspects of his or her life, elicit the values that are important to the caregiver, and develop an awareness of what the caregiver is currently doing (or not doing) in relation to the issue. The four core skills can be used to develop an understanding of the caregiver's perspective. MI approach

should **refrain from judging, promoting/advocating for change, or giving advice** (unless invited to do so at a later stage).

- **Open-ended questions:** Open-ended questions help build a relationship by inviting further conversation, revealing deeper thoughts and reflection, and conveying a sense of interest and intimacy. However, a conversation with only open-ended questions can feel like an interrogation. **Alternating questions with reflections and summaries is a critical MI skill.**

- **Affirmations**: Affirmations communicate acceptance or admiration for another's actions, intent, beliefs, or values. Affirmations can be expressed nonverbally, such as through eye contact and head nods, as well as through words. **Effective affirmations require sincerity,** only affirming what you believe to be true. People are more likely to believe that an affirmation is genuine if it is **specific**. For example, "You have been making a good effort on this issue," rather than a general "Good job."

- **Reflections**: Reflections include two different types. **Simple reflections** are statements that repeat or paraphrase what the other person has said. Reflections should be brief. A good rule of thumb is that they should be shorter than the statement(s) they are reflecting. Simple reflections are useful for allowing the conversation to continue while inviting further elaboration. As mentioned in using open-ended questions, basic reflections can also be overused. If you find yourself stuck in a conversation, going in circles or not moving forward, it is possible that you are using too many simple reflections. **Complex reflections** extend the meaning of what has been communicated, so these can be used to go beyond the surface expressions of a conversation. This extension is typically a supposition formed from the caregiver's current statement as well as previously shared information.

- **Summaries**: Summaries include the paraphrasing of several ideas, and in this sense, they are merely a compilation of extended simple and complex reflections. Sometimes, these summaries reflect recent conversations, but they can also integrate or synthesize pieces of information the caregiver has presented in the past. Summaries can be used to end a particular topic and transition to a new one or to strategically repeat back to the caregiver an important theme or series of change talk statements.

- **Advising and informing**: These can be applied selectively and strategically within the spirit of MI. One strategy in MI is to ask permission to advise or inform. Also, advice or information should be dispensed only after the caregiver's perspective and needs are understood. Finally, following the giving of advice or information, the teacher should help the caregiver draws his or her own conclusions about its relevance to his or her situation.

(2) Focusing involves the narrowing from a general decision about change to a specific focus on a target behavior, or a **goal for change**. There are **issues and challenges** that can arise for using the MI. These can derail the focusing process and undermine the MI spirit.

- **Tolerating uncertainty**: Dealing with ambivalent caregivers means dealing with a lot of uncertainty. You may be tempted to do the following, such as hurrying the caregiver through the uncertainty, moving before the focus is clear and agreed upon, traying to "make things right", and just solving the problem for the caregiver. These are all counterproductive and will set the caregiver and the process back.

- **Sharing control**: Uncertainty can cause you to worry about losing control of the session. You may consequently hold on too tightly to the reins during the session. Instead, it's important for you to project confidence that despite the seeming uncertainty, together with the caregiver you will find a clear path.

- **Finding openings for change**: It is easy to miss opportunities for change when the tasks of everyday practice (e.g., assessments, problem management) demand your attention. MI asks you to be constantly listening for openings for change. This means listening for the caregiver's strengths, values, and aspirations for change.

- **Differing goals**: Sometimes, goals between you and the caregiver could be different. Ethical issues can arise: Should I encourage resolution of ambivalence in a specific direction? What if I have a personal investment in a specific outcome? What if my best interest is at odds with what is best for the caregiver? "MI is not about persuading people to do something that is against their values, goals, or best interests. Unless the change is in some way consistent with the caregiver's own goals or values, there is no basis for MI to work" (Miller & Rollnick, 2013, P.125)

- **Exchanging information**: It is easy to overestimate how much information and advice the caregiver needs. "The purpose is not to

deliver advice, but to foster change" (Miller & Rollnick, 2013, p. 131, p 137). There is a practical approach for informational exchange: Elicit-Provide-Elicit. *Elicit* is to ask permission and check on the caregiver's prior knowledge and level of interest in the information. *Provide* is to give the needed information in a way the caregiver can easily understand. *Elicit* is to check on the caregiver's understanding and response to the information.

(3) Evoking is the process of drawing out the caregiver's ideas about why and how to change. The caregiver, rather than teacher, talks about why and how he or she might change, guided by the teacher's curiosity and attention to the language of change. Change talk can be encouraged by reflecting it and asking open questions like, "How might you get through these difficult situations more comfortably?" There are specific aspects of caregiver language that evoke and strengthen motivation and commitment for behavior change: preparatory change talk and mobilizing change talk. **Preparatory change talk** expresses the advantages of change while **mobilizing change talk** signals movement toward resolving ambivalence in favor of change. Preparatory change talk reflects advantages of change talk. It does not indicate that change is going to happen. That is what mobilizing change talk expresses. "To say one must, can, wants to change is not the same as saying one will." There are different levels of preparatory change talk and mobilizing change talk. Recognizing what kind of change talk you are hearing from the caregiver lets you know where the caregiver is already strong and what areas may need to be examined and strengthened. See the following table for examples.

Preparatory change talk	**Mobilizing change talk**
● **Desire**: expresses the person's aspiration for changing, "I want.... I would like.... I wish.."	● **Commitment**: signals the likelihood of action- "I will... I promise... I swear... I guarantee... I give you my word..."
● **Ability**: expresses the person's self-perceived capacity to achieve the change. The person believes it is possible to "do it" "I can... I could... I would be able to..."	● **Activation**: expresses movement toward action but no commitment "I'm willing to... I'm ready to... I'm prepared to..."
	● **Taking steps**: indicates action

• **Reasons**: expresses the person's reasons for changing, "I would feel better… I might have more time with my kids….I might be less stressed. • **Need**: expresses the urgency of change, but doesn't provide a reason. "I need to…. I have to … I must… I've got to…"	has been taken toward change. "This week I went grocery shopping with my kid…I bought a metro bus ticket for him, so he can use the bus for work… I went to a support meeting…. I called three places about a possible job…"

(4) Planning is the process of helping the caregiver decide how to make the change, what to do, and when. The changes are often not simple for anyone, and require effort, courage, foresight, and thoughtfulness in the face of failure. Ambivalence or uncertainty doesn't go away just because someone makes an initial decision to change. If you as the teacher enter this scenario with a "just do it" approach, fueled by the "**righting reflex"** (e.g., to argue against it**)** and many good intentions, you are likely to meet resistance from the caregiver.

The Structure of the Transition Check-Up

The TCU attempts to build caregivers' motivation and capacity to effectively manage their child's transition to employment. It collects data about three key predictors for positive employment outcomes, shares this data with caregivers, and helps them make informed decisions about how to best support their child's transition. The TCU mainly consists of three components: (a) a TCU assessment session, (b) a feedback session, and (c) goal-setting session. Initially, the teacher contacts the caregiver to build a relationship with the family, learn about caregivers' concerns, prepare the family for change, and motivate families to be engaged in the intervention. Assessment data are collected after this initial contact. The child's teacher is also asked to complete the assessment package about the child's functional skills, prior work experiences, and teacher expectation/involvement. During the feedback session, the family receives feedback based on these assessments and is encouraged to set goals and establish an action plan by selecting from a menu of follow-up steps.

MI is the interaction style that is infused in the TCU. The TCU structure is intended to make the foundational MI processes explicit for the teacher working with

the family. The assessment experiences are intended to be engaging and to assist in developing a case focused on child and caregiver strengths and areas of growth that impact the current concerns. The feedback session is intended to evoke the change process by making caregivers aware of patterns, encouraging self-reflection, and drawing out their reactions to this information with personalized information about both the child and caregivers. The menu of options and action planning steps are in line with the planning process of MI. The four MI processes (engaging, focusing, evoking, planning) occur within any of these phases of the TCU.

Initial Contact and Assessment Session

During the initial contact, the teacher talks with the caregiver to discuss logistics and to provide a roadmap of what is to come.

Guide for Initial Contact

Teacher:
"Thank you for taking your time to talk with me. The goal is to work with caregivers and schools to support **(student name)** for successful transition to employment after school. We will have a meeting after completing the assessment package, which I will give instructions for during this phone call. In the meeting, I will share all the information that I have collected from you and the information collected from me as a teacher. Caregivers usually find this information very helpful in thinking about what is going well for their child and what they would like to do for their child. At the end of the meeting, you can decide what else you would want to do.

Before that meeting, today I would like to know more about your interests about your child, your values, and any concerns you might have for **(student name)** transition. Also, I will email you with an online link to access the TCU online assessment package, username, and password via email. You simply click the link in the email and log in with the username and password. The system will require you to change this password on the first visit for your security purpose. Once you log in the system, please complete the entire assessment to examine your child's functional skills, prior work experiences, and your own expectation/involvement in the transition planning. The purpose of collecting all of this information is to get as much information to learn what's going well and what can be improved. I find it's helpful to get many people's views on these questions. After I collect all the information, I will put it all together. Then I will set up our first meeting (or IEP meeting). In the meeting, I will tell you everything that I found and then we will come up with a plan for the next steps. It's totally up to you how you want to proceed after that meeting. Together we will look at all the information and come up with a list of possible next steps, a menu that fits the best for your child and family. Once you complete the TCU online assessment package and the results are ready, I will contact you again to schedule our first meeting."

Assessment

One of the goals of the first meeting is to gather assessment data that can be used to inform and guide the feedback session during the transition planning meeting. The assessment is meant to gain multiple perspectives on the family and school needs for supporting the student's transition planning. The teacher sends an invitation email including a link to access the online TCU assessment to the caregiver, and the caregiver completes the assessments. Through this online assessment system, teachers and caregiver individually complete a TCU assessment package at their convenience. For two-caregiver families, the caregivers collaboratively reach **a single rating** on the online TCU assessment. The online TCU assessment session will take approximately 20-30 minutes. After the invitation email is sent to the caregiver, a reminder email could be sent two days later to a caregiver who has not completed the assessment. After a week, another reminder email can be sent.

The TCU assessment includes the following three sections: functional skills, prior work experience, and caregiver expectation/involvement.

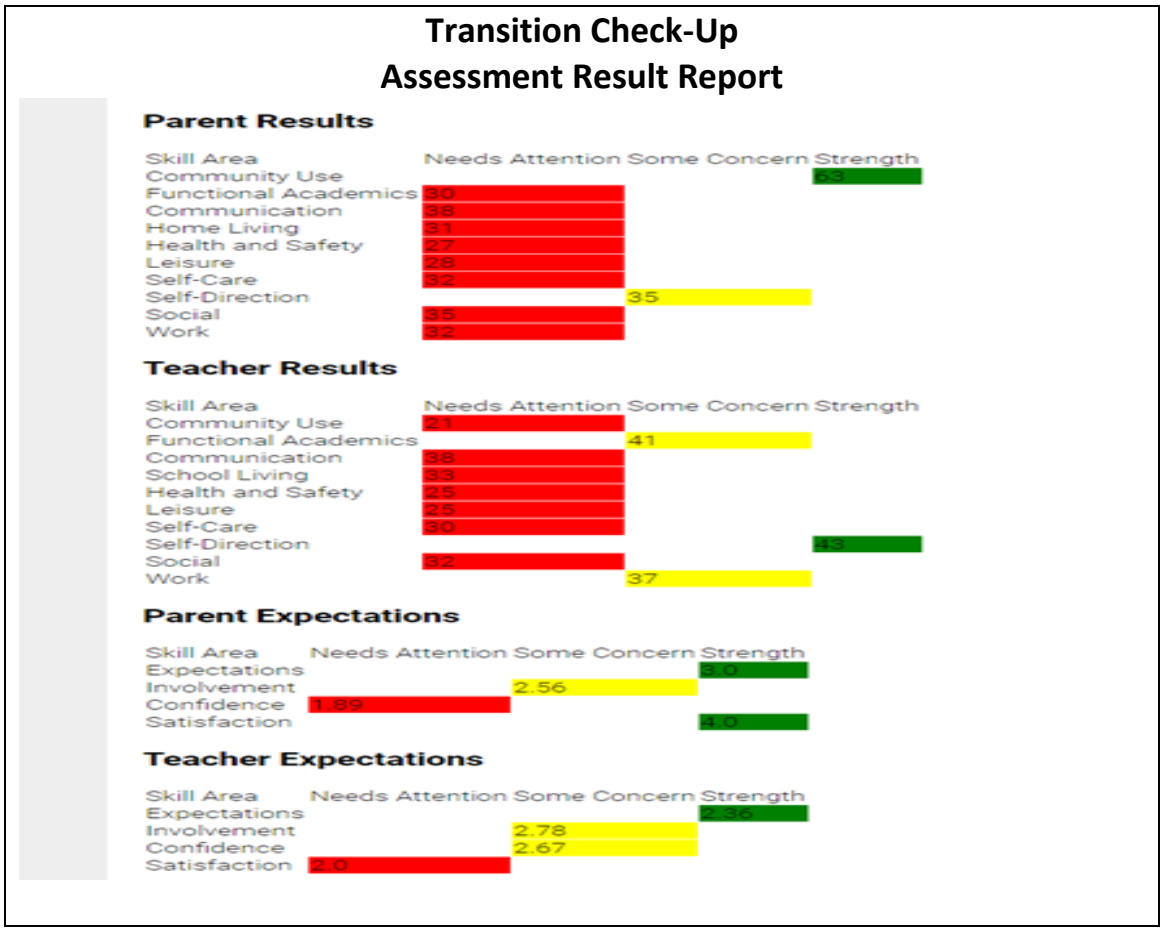
- **Functional skills** will be assessed by using Adaptive Behavior Assessment III (ABAS-III, Harrison & Oakland, 2015). This standardized norm-referenced measure assesses functional skills among children and youths ages 4-21. The ABAS-III evaluates the skills that are used in conceptual, social, and practical areas of adaptive behavior. The ABAS-III includes teacher and caregiver rating forms, both of which include 10 areas (i.e., communication, community use, functional academics, school/home living, health and safety, leisure, self-care, self-direction. social, and work). Respondents will rate each item on a 4-point scale ranging from 0 (i.e., "Is not able to perform") to 3 (i.e., "Always or almost always when needed").

- **Prior work experience (*Caregiver only*)** is assessed by a caregiver by completing the Prior Employment Questionnaire (PEQ), which included open- and closed-ended question formats. The PEQ was developed based on parent and student interview items from the NLTS-2 and included four items about employment status and past employment history. Three items asked about youths' employment status (e.g., "Has your child ever had a job?") and one item asked about reasons why youth does not have a job if he or she never had a job.

- **Key adult agents' expectation/involvement** is assessed with parent interview items from the National Longitudinal Transition Study-2 (NLTS-2, SRI International, 2000). The parent interview included 20 items. A total of 11 items were used to assess expectations for youth's postschool employment outcomes (e.g., "How likely do you think it is that youth eventually will get a paid job in an integrated employment setting?"). Key adult agents rated on a four-point scale

ranging from 1 (i.e., “Definitely won’t”) to 4 (i.e., “Definitely will”). A total of nine items were used to assess involvement in youths’ employment planning (e.g., “During this school year, how often did you or another adult in the household talk to youth about finding a job?”). Key adult agents rated on a four-point scale ranging from 1 (i.e., “Never”) to 4 (i.e., “Often”)..

Once the teacher and caregivers complete the TCU assessment, the TCU system generates the assessment results as a report, including visual graphs showing brief descriptions of strengths and needs across the three targeted skills (i.e., functional skills, prior employment experience, key adult agents’ expectation/involvement). Please see the example of the report in the following Figure 1 (Note. The following report can be slightly different from what you would have.)



Feedback session

While organizing the feedback session, the teacher needs to think about the main areas to discuss, including both strengths and concerns. To prepare for this discussion, the teacher could use the **Feedback Preparation Form**. While using the form, the teacher organizes the TCU assessment results and plans what to discuss and how to facilitate the meeting. On the form, the teacher **lists strengths** identified by both teacher and caregiver in the assessment result.

If the assessment result does not indicate enough strengths, the teacher may include **strengths based on their observation at school**. Similarly, the teacher **lists areas of needing improvement** based on the assessment result. If the teacher wants to add specific areas that are important to discuss but not indicated on the assessment result, he or she includes them on the list.

Once the teacher identifies strength areas and needs improvement areas from both teacher and caregiver sides, he or she circles any common areas identified by both teacher and caregiver. The teacher may find that the assessment result from his or her response is aligned to the caregivers' response.

The teacher **picks and lists the top three to five target areas** for improvement across the three key predictors (e.g., functional skills, prior employment, adult expectations/involvement) among the common areas from both teacher and caregivers.

If the assessment result indicates discrepancies between teacher and caregiver responses, the teacher would still pick and list the top three to five target areas for improvement based on both teacher and caregiver responses. This helps the teacher **prepare directions** for where to start the conversation with the caregiver.

Once the teacher lists the target areas for improvement, he or she starts **brainstorming potential options and ideas**, such as what support and resources are available for the caregivers to support the child per each listed area. This helps the teacher to give concrete examples of the most important areas during the feedback session.

However, the teacher needs to **avoid being overly attached to a specific direction for the caregivers** prior to the feedback session. The entire process of the TCU is intended to collaboratively walk through with the caregivers, instead of leading them as an expert. Therefore, the teacher needs to **be open to what the caregivers ultimately decide to do during the feedback session**. It would be a **misunderstanding of the TCU if the teacher facilitates the feedback session with a rigid goal of what he or she expects the caregivers to select and do**. The teacher needs to **trust that the caregivers will make the best decision for themselves and their child**. The teacher's role is simply to prepare potential options so that caregivers can make informed decisions.

Step 1. Brief introduction & social conversation

Take time at the beginning of the meeting to **engage the caregivers with social conversation**. Do not rush to move to the feedback session immediately. This social conversation allows time for the caregiver to get settled into the conversation before transitioning to the feedback session. **Do not bring out the Assessment Result Report** until it is time to begin sharing the assessment results. It is also important to provide the caregiver a **clear expectation** for what is going to happen during the feedback and goal-setting session.

Sample for clear expectation

"What I would like to do first is to talk with you about [student name] and how he/she is doing in school. We will also talk about how things are going at home for you and your family. I asked you to complete the TCU online assessment package, and I did complete the same assessment package based on my observation of him/her at school. I have a report addressing information on how [student name] is doing in functional skills, compared to other students his/her age. And, how he/she is doing from your and my perspective. Also, the report indicates what expectations you and I have for his/her employment related outcomes after school and how you and I are involved in this area. Lastly, the report includes his/her prior work experiences. I want to share all this information with you. Our work today is all about how to make sure things are going the way you want them to in your family, and if they are not going the way you want, we will consider ways you would want them to be different. Then, if you are interested, we can talk more about what would need to happen for things to be different. This includes the different options you have for the next steps. Of course, I am not here to tell or direct you or your family how things should be and what you should do. Only you can decide what is right for you and [student name] and what you need or want to do."

Step 2. Caregiver reflection on the TCU assessment

The assessment could provide opportunities for the caregiver to bring some new perspectives that they had not previously considered. Begin by asking the caregiver to **reflect on what was learned from the TCU assessment process**. This can be introduced by saying, "I would like to hear a little more about your experience with completing the TCU assessment questionnaires. Was there anything that surprised you? What did you notice about yourself? Did anything stand out for you when you were completing the assessment that you might not have thought about before?" This helps you **find out where the caregiver is in the change process** and any specific ideas the caregiver may have already developed for changing. If the caregiver says that nothing was learned, this may tell you that the caregiver is in an early stage of change.

Sample conversation using MI

Teacher (T): Usually after the TCU online assessment, caregivers bring some insights or questions, or it made them think about some other things. So what did you think about after the TCU online assessment?	Open-ended question
Caregiver (P): Yes, I've been thinking about a lot of things.	
T: So what are those?	Open-ended question
P: I thought that I didn't really think about what I want my child to do after school graduation. I just have been overwhelmed about his uncertain future after graduation and just wanted him to have a job, but really didn't think how I can help him.	Reflection
T: You want him to have a job after high school graduation.	
P: Yeah. I could have considered that I could help him to find a job.	Reflection
T: You feel you could support him to be able to find a job after high school instead of being under stress.	
P: That's right.	

Step 3. Introduce the feedback form

Place the **Assessment Result Report** on the table, so that the caregiver can see it. If possible, cover or hide other areas that might distract the caregiver from the focused discussion of a particular area. Give an overview of the TCU process and then **explain to the caregiver what green, yellow, and red mean.**

Sample conversation

Introduce the Assessment Result Form
T: Today, I want to share with you all the information I have collected from you and I. The format we have is a report that looks like this. We will look at three areas. The first is titled "functional skills." This is basically how (student name) is doing in practical and everyday skills needed to function and meet the demands of one's environment, including effectively and independently taking care of oneself and to interacting with other people. Then, we will look at caregiver expectation/involvement, such as what expectations we have for (student name) future employment outcomes after school

graduation and how we are participating in (student name) transition process and have opportunities to play an active role. Lastly, we will look at the prior work experience. Do you have any questions?"

P: Sounds good.

T: As you can see on this report, areas in **green** are areas of strengths such as things that we want to keep going. **Yellow** areas are ones that are in the warning zone and we may want to consider as areas to work on. Those things in the **red** are areas we want to stop and think about. These are things we should pay attention to when we think about ideas for what we want to work on and better support for your child. As we look over this report, please let me know if certain areas stand out to you as things you want to work on, and I will take some notes on them. We will come back to these at the end when we decide next steps.

P: OK. I will.

T: I'm going to go down one area at a time. If you have any questions let me know.

Step 4. Deliver the feedback

Tip1: Start with the positives

*Begin by highlighting what is going well. Try to give **specific and genuine examples of strengths and positives**, such as "Here, you can see (student's name) has great social skills. Teachers and peers really like (student's name)." In addition, be sure to comment on strengths of the caregiver, such as "It is clear how committed you are to helping (student's name) be successful. Even meeting with us is a sign of your commitment and love for (student's name)."*

Tip 2: Start at the top and move down the page in order

"The first thing on the list is whether there are any concerns about functional skills. You can see that (Student name) is yellow in "transportation." This was across all of us. Both I and you rated (Student name) as a need to improve. For instance, you mentioned in our last meeting that (student name) missed some job opportunities because he needed a ride when you were not available."

Tip 3: Avoid shifting prematurely to focus on solutions

Keep the attention focused on the feedback based on the Assessment Result Report before discussing solutions. Give the caregiver the full information offered by the Assessment Result Report. Then, the caregiver can make informed decisions about how best to proceed and which concern to target first. Once the caregiver starts asking for or

*offering solutions during the feedback phase**, briefly summarize his/her thoughts, validate them, and then say that these will be written down, so that these later can be remembered and discussed.*** *For example, "Those are great ideas. I'm glad you are thinking about how you might go about solving that issue. I'm going to start writing a list of things that you might try so we can come back to these when we start making a plan of change."*

<u>Tip 4. Check in to create dialogue</u>

*The point of the feedback session is to **engage the caregiver in conversation** about topics that may be difficult or that the caregiver had not thought about before. Summarize each section of the Assessment Result Report and **check in with the caregiver for his or her reactions to what he or she is seeing and hearing.** After important feedback points, ask the caregiver for his or her reactions such as "What do you think of that? Does that fit with how you see your child?" Give the caregiver enough opportunities for reflection about what the feedback from the Assessment Result Report means and how the caregiver is interpreting the findings.*

Sample for Feedback Session

[Start with the positives] T: "Jay has been actively participated in working at the coffee cart. He comes early for the prep and opens the cart on time with a few reminders. He has been reliable to run the coffee cart. Also, teachers and students really like his coffee! In addition, I would like to highlight that i*t is clear how committed you are to helping <u>Jay</u> be successful. Even meeting with us is a sign of your commitment and love for Jay. Here is indicating you have higher expectations for Jay. This is a critical sign for Jay's successful transition."* **[Summarize each section from top to down]** T: "The result report indicates needs for improvement, specifically in the areas like Communication, Social, Self-Care, Home/School Living, Leisure, and Health & Safety. As you can see, there's generally good agreement between I and you that (Student name)'s functional academic is an issue right now, in terms of both how (student name) is affected by and how (student name) is affecting others. Does this information fit with how you've been seeing the problem? **[Ask the caregiver for their reactions such as the following]** T: "What do you make of that?" "Does that fit with how you see *<u>(student's name)?</u>*" "I can tell by your reaction that that surprises you."	Feedback

Step 5. Generate menu of options

Providing people with more than one option for how a goal might be met makes it more likely they will follow through on a plan. Thus, it is a good idea to **generate a list of possible options**; a menu from which the caregiver can choose.

The teacher can **co-create the menu with the caregiver** by asking him or her what they have considered doing. Also, the teacher may **ask the caregiver's permission to help generate items on the menu**. The process is very **collaborative** and should **focus on brainstorming to identify potential solutions.**

One way to start generating a menu of options is to say, "Given that (student name) is struggling at school and showing some signs of being inattentive and disruptive at school and home, and given that this is the area of most concern to you right now, let's spend some time generating a list of ideas about how to help address this concern. What ideas have you considered, if any, for taking action in addressing this concern?" The teacher could take a note on the **Menu of Options Form (see p. 17)** or alternatively **use a whiteboard** to help with the process. The top of the form begins by asking the caregiver what areas he or she would like to work on. Additionally, it has a column in which the teacher writes down the ideas you develop together. Teacher should also actively contribute to this constructing the menu.

Once the form is completed, move to the **Goal-setting Form (See page. 18)**. The teacher can transition to this by saying, "Great, we identified several ideas for next steps. Let's take some time to identify two or three of these ideas that we want to put into action. We are going to use this goal-setting form to come up with the next steps."

<u>Goal-setting Session</u>

The teacher needs to be sure to **elicit specific, measurable, attainable, realistic, and timely (SMART) goals** from the caregiver. One way to do this is to **ask clarifying questions, such as who, what, where, when, and how often**. For example, if the caregiver says "better job," the teacher could ask what that would look like. For example, "How would you know?" "What would be different that you could see?" or "When would you see him/her doing it?"

When the end of the Goal-Setting Form is reached, the teacher asks the caregiver to complete the "**importance and confidence rulers" sections**. The teacher also could use **Importance and Confidence Rulers** to briefly check in with the caregiver by **asking the level of importance and confidence to carry the goals**. Regardless of the number the caregiver selects, he or she will be asked why that number was chosen and not chose the one is smaller or bigger. For example, if the caregiver says 0, the teacher could say, "So this is the least important thing to you right now." This is a sign that the teacher

needs to start over and select a new goal. Next, the teacher could ask “What would it take to go from a 6 to a 7? What would have to happen?” The teacher can then walk the caregiver up to a 10. While doing this, the teacher continues to use active listening and reflection throughout the conversation by writing down things the caregiver says above the numbers he or she gives. Repeat this process with the confidence ruler for the rest of the areas for goal-setting. The teacher needs to **make sure to reflect the caregiver’s responses as this will elicit change talk**.

The last part is to discuss potential barriers to meeting or working on the goal and brainstorm ways to avoid or overcome these barriers. It is helpful to give the caregiver one copy of the goal setting form, while the teacher keeps one for review at future meetings. Before finishing the goal-setting session, the teacher and caregiver arrange the next meeting together and review what each person will do before then. The teacher briefly summarizes the feedback and introduces next steps.

Feedback Preparation Form

	Strengths		Needs for Improvement	
Predictor	Teacher	Caregiver	Teacher	Caregiver
Functional Skills				
Prior Employment				
Expectation/ Involvement				
	Target Areas for Improvement	List Menu of Options		
1.				
2.				
3.				
4.				
5.				

Menu of Options Form

Name: Date:

Target Areas for Improvement
1.
2.
3.

Menu of Options
1.
2
3.
4.
5.

Notes.

Goal-Setting Form				
Attainment Level		Goal 1.	Goal 2.	Goal 3.
Much less than expected (Present level of performance)	-2			
Somewhat less than expected (Short- term goal)	-1			
Expected level of outcome (Target goal)	0			
Somewhat more than expected (Exceeds target goal)	1			
Much more than expected (Far exceeds target goal)	2			
How important is it for you to meet this goal? Not important at all 0 1 2 3 4 5 6 7 8 9 10 Very important			How confident is it for you to meet this goal? Not confident at all 0 1 2 3 4 5 6 7 8 9 10 Very confident	

APPENDIX H

ADAPTED MOTIVATIONAL INTERVIEWING INTEGRITY SCALE

EVOCATION				
LOW				**HIGH**
1	**2**	**3**	**4**	**5**
Teacher actively provides reasons for change, or education about change, in the absence of exploring caregiver's knowledge, efforts, or motivation.	Teacher relies on education and information giving at the expense of exploring caregiver's personal motivation and ideas.	Teacher shows no particular interest in, or awareness of, teacher's own reasons for change and how change should occur. May provide information or education without tailoring to caregiver circumstances.	Teacher is accepting of caregiver's own reasons for change and ideas about how change should happen when they are offered in interaction. Does not attempt to education or direct if caregiver resists.	Teacher works proactively to evoke caregiver's own reasons for change and ideas about how change should happen.
COLLABORATION				
LOW				**HIGH**
1	**2**	**3**	**4**	**5**
Teacher actively assumes the expert role for the majority of the interaction with caregiver. Collaboration is absent.	Teacher responds to opportunities to collaborate superficially.	Teacher incorporates caregiver's goals, ideas, and values but does so in a lukewarm or erratic fashion. May not perceive or may ignore opportunities to deepen caregiver's contribution to the interview.	Teacher fosters collaboration and power sharing so that caregiver's ideas impact the session in ways that they otherwise would not.	Teacher actively fosters and encourages power sharing in the interaction in such a way that caregiver's ideas substantially influence the nature of the session.

ADAPTED MOTIVATIONAL INTERVIEWING INTEGRITY SCALE (CONTINUED)

AUTONOMY/SUPPORT				
LOW				**HIGH**
1	**2**	**3**	**4**	**5**
Teacher actively detracts from or denies caregiver's perception of choice or control.	Teacher discourages caregiver's perception of choice or responds to it superficially.	Teacher is neutral relative to caregiver autonomy and choice.	Teacher is accepting and supportive of caregiver autonomy.	Teacher adds significantly to the feeling and meaning of caregiver's expression of autonomy, in such a way as to markedly expand caregiver's experience of own control and choice.
DIRECTION				
LOW				**HIGH**
1	**2**	**3**	**4**	**5**
Teacher does no influence the topic or course of the session, and discussion of the target behavior is entirely in the hands of client.	Teacher exerts minimal influence on the session and misses most opportunities to direct caregiver to the target behavior.	Teacher exerts some influence on the session, but can be easily diverted away from focus on target behavior.	Teacher generally able to influence direction of the session toward the target behavior; however, there may be lengthy episodes of wandering when caregiver does no attempt to redirect.	Teacher exerts influence on the session and generally does not miss opportunities to direct caregiver toward the target behavior or referral question.

ADAPTED MOTIVATIONAL INTERVIEWING INTEGRITY SCALE (CONTINUED)

EMPATHY				
LOW				**HIGH**
1	**2**	**3**	**4**	**5**
Teacher has no apparent interest in caregiver's worldview. Give little or no attention to the caregiver's perspective.	Teacher makes sporadic efforts to explore the caregiver's perspective. Teacher's understanding may be inaccurate or may detract from the client's true meaning.	Teacher is actively trying to understand the caregiver's perspective, with modest success.	Teacher shows evidence of accurate understanding of caregiver's worldview. Makes active and repeated efforts to understand caregiver's point of view. Understanding mostly limited to explicit content.	Teacher shows evidence of deep understanding of caregiver's point of view, not just for what has been explicitly stated but what the client means but has not yet said.

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